

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



erse
67
78

VOL. 13 No. 29

July 19, 1963

U. S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY

JUL 29 1963

CURRENT SERIAL RECORDS

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GRASSHOPPER counts becoming high in areas of northern Plains and the Midwest; feeding on soybeans, corn and other crops. Adults noted in Illinois, North Dakota and Utah; outbreak continues in latter State. Damage reported in Utah, Minnesota, Wisconsin, Illinois and Alabama. (pp. 813-814). CORN ROOTWORMS causing heavy damage to corn in southern and eastern Nebraska. (p. 814). EUROPEAN CORN BORER populations becoming high in west central Minnesota, with some fields 100 percent infested; could become a problem this season. (p.815). CORN LEAF APHID severe on several hundred acres of barley in areas of Utah. (p. 816). PEA APHID increasing on alfalfa in Colorado and populations high on same crop in Minnesota; buildup has remained longer than normal in Arizona. (p. 817). Considerable ALFALFA WEEVIL larval activity noted in alfalfa in Wyoming; considerable loss occurring to second cutting of alfalfa hay in Weld County, Colorado. (p. 818).

EUROPEAN RED MITE increasing in areas of Wisconsin, Michigan and New York on apples. Various ORCHARD MITES also troublesome in some areas. (p. 820).

BOLL WEEVIL infestations continue relatively light, with increases noted in some areas. BOLLWORMS appearing in greater numbers in more northern Alabama counties; damage in some western Tennessee cotton fields sufficient to justify controls. (p. 829). LYGUS BUGS remain economically important in Arizona cotton, and COTTON FLEAHOPPER high and increasing in several counties, with nymphs destroying squares on growing tips. (p. 830).

Large scale infestation of TENT CATERPILLARS present in Kootenai and Bonner Counties, Idaho; FOREST TENT CATERPILLAR again defoliated several thousand acres of bottomland hardwoods in Louisiana and Texas. (p. 833).

HORN FLY, STABLE FLY and HORSE and DEER FLIES annoying to livestock and humans in several areas of the Nation. (p. 837).

DETECTION

LOCUST LEAF MINER reported for first time from Hancock County, Illinois. (p. 833).

CORRECTIONS and ADDITIONAL NOTES

See pages 839 and 840, respectively.

SPECIAL REPORTS

Quarterly Citrus Insect and Mite Outlook in Florida - July through September. (pp. 822-823).

Status of the Screw-worm in the Southwest. (p. 836).

Reports in this issue are for week ending July 12, unless otherwise indicated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-JULY TO MID-AUGUST 1963

The Weather Bureau's 30-day outlook for the period mid-July to mid-August calls for temperatures to average below seasonal normals over the Middle Atlantic States, the Ohio and Tennessee Valleys, the Pacific Northwest and the northern Rocky Mountain States. Above normal temperatures are predicted for the Southwest, central Plains, gulf coast and Upper Lakes. In areas not specified, near normal averages are in prospect. Rainfall is expected to be subnormal over the southwest quadrant of the Nation, the Upper Lakes and the East Gulf States. Above normal amounts are forecast over the Northwest and from the Appalachian Mountains to the Atlantic coast. Elsewhere in the country, near normal rainfall is anticipated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington 25, D.C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING JULY 15

A few thunderstorms occurred along the southern edge of Dixie as a mound of polar continental air pushed farther toward the Gulf. By Wednesday morning, the eastern half of the Nation was clear, cool and comfortable. Early morning temperatures dropped into the 30's in some valleys in the Appalachians in Pennsylvania and low-temperature records were broken at many stations from Michigan to Massachusetts. Afternoon temperatures over the northeastern quarter of the Nation were mostly in the 70's. Some cloudiness and a few isolated afternoon thundershowers occurred along the western edge of the Plains. Some communities in Kansas received from 5 to 10 inches of rain on the 10th and 11th. Low clouds and light rain or drizzle persisted along the northern Pacific coast; southwestern deserts continued hot. As the cool air pushed eastward into the Atlantic, southerly winds brought warm, humid air from the Gulf to replace it. Temperatures at midweek reached the 90's over the Plains and the 70's and 80's over the northeastern quarter of the country. Miles City, Montana, registered 95° on Wednesday. The Southwest continued hot during the entire week. Afternoon temperatures at Needles, California, ranged from 101° on Tuesday to 115° on Sunday, July 14. Blythe, California, registered 96° Thursday night at midnight. Saturday morning, a cold front extended from western Nebraska to Lake Superior. Prefrontal showers occurred from Kansas to Wisconsin. As the front advanced, the showers spread eastward. Areas in Wisconsin, Michigan, Illinois, Indiana and Ohio received from 1 to 2 inches of rain from this storm. The showers continued their eastward movement. By Saturday afternoon, most States from Minnesota to Michigan and southward to the Gulf received rain. By Sunday, rain had fallen over the eastern half of the Nation except that, in Florida, the showers were widely scattered. Precipitation was generally light over the western part of the Nation. An exception was Williston, North Dakota, where 5.93 inches fell. Wide areas in California, Nevada, Oregon, Idaho, Utah and Arizona received no rain or only light sprinkles. Heavy rains fell over parts of Mississippi, Arkansas, Oklahoma, Kansas, Missouri and Iowa. Hail as large as baseballs fell at Hastings, Nebraska. Rainfall over the central and eastern portions of the country was unevenly distributed. Scattered areas received more than 2 inches and nearby stations received less than 1 inch.

Temperatures averaged above normal over a narrow strip along the Pacific coast; also over the eastern slope of the Rocky Mountains and most of the High Plains. They averaged below normal over the western slope of the Rocky Mountains and westward almost to the Pacific coast, over most of the central Plains, eastward to the Atlantic Ocean. Temperature departures ranged from -7° over north central Oregon, -11° at Huntington, West Virginia, and -12° at Raleigh, North Carolina, to +6° at Roswell, New Mexico. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - OHIO - Early instars of Melanoplus sp. averaged one per sweep in most southeast area alfalfa; populations do not appear heavy at present. (Lyon). IOWA - Grasshoppers ranged 5-30 per square yard in alfalfa, red clover, and pastures, 10-50 per square yard in fencerows. (Iowa Ins. Inf., July 8). ILLINOIS - Grasshoppers increasing in clover and alfalfa; range first instar to adult, with most first to third instar. Melanoplus spp. ranged 6-24 per square yard in clover and alfalfa in central and west districts. 'Hoppers still hatching but Melanoplus sanguinipes adults appearing in some sandy areas. Occasional soybean fields show moderate feeding in marginal rows. (Ill. Ins. Rpt.). WISCONSIN - Little change observed in southern part of State; most alfalfa contains at least few small nymphs, ranging from one per sweep in Ashland County to 60 per sweep in few fields in Dane County. Average counts by county as follows: Iowa - 8; Lafayette - 12; Grant - 20; Crawford - 15; Dane - 20; Columbia - 10; Green - 9; Rock - 9; Walworth - 25. Counts in individual fields fluctuate considerably; most fields show noticeable feeding injury despite fact that M. femurrubrum predominates (most in second to fourth instar). Soil reserve field in western Dane County nearly defoliated; adults present. Few Dissosteira carolina adults noted in area. Young nymphs noticeable in corn fields in Portage County and averaged about 40 per square yard in field of peas in Rock County; no damage to peas observed, although crop about a week from harvest. Fewer nymphs noted in Jefferson and Waukesha Counties than in Dane, Green, Rock, or Walworth Counties, but counts up to 40 per square yard in some fields. (Wis. Ins. Sur.). MINNESOTA - Grasshopper infestations expected to be quite scattered and localized; weather has been ideal for egg hatch and development for more than a month. General hatch of M. femurrubrum and M. differentialis occurred throughout State. Scattered but high numbers (100 or more per square yard) of first to third instar M. differentialis found in field margins and roadsides in Lac qui Parle County; moved to corn and soybeans in some areas; heavy leaf feeding noted in marginal rows. In Anoka and Sherburne Counties, first to fourth instar M. femurrubrum ranged 5-45 per square yard; damage by small 'hoppers very apparent, with movement from dry alfalfa-grass to corn and soybeans evident in high count fields. M. femurrubrum ranged 25-35 per square yard in occasional field in Faribault and Fillmore Counties. Counts low in Kittson County. (Minn. Ins. Rpt.). NORTH DAKOTA - Nymphal surveys conducted in western counties. Dunn County - ranged 30-50 per square yard on cropland margins; dominant species M. sanguinipes (second to fifth instar), M. bivittatus (fourth and fifth instar). Sheridan County - ranged 6-30 per square yard in field margins; dominant species M. bivittatus and M. packardii (second to fifth instar, mostly fourth and fifth). Ranged up to five per square yard in Renville, Billings, Mountrail, Williams, Divide, and Burke Counties. McKenzie County - averaged 4-5 per square yard on rangeland; dominant species M. sanguinipes, Ageneotettix deorum and Aulocara ellioti (second instar to adult). Golden Valley County - 'hoppers averaged seven per square yard with high count of 36. Slope and Billings Counties - averaged six per square yard; M. sanguinipes, Aulocara ellioti and Ageneotettix deorum dominant (second to fifth instar). (N. D. Ins. Sur.). NEBRASKA - Grasshoppers as high as 30 per square yard in field margins and ditchbanks in Scotts Bluff County; average 12 per square yard, North Platte River Valley. M. bivittatus, M. differentialis, M. femurrubrum and M. sanguinipes principal species involved. (Hagen). Fourth and fifth instar M. differentialis averaged 12 per square yard in eastern Lancaster County alfalfa. (Bergman). OKLAHOMA - Nymphal surveys continued in five southwestern and four north central counties. Rangeland counts generally below threatening level in Cotton, Comanche, Jackson, and Tillman Counties (southwest); additional survey made in southwestern portion of Beckham County (southwest), where nymphs range 6-14 per square yard, showed 'hoppers dispersed from hatching beds. In Kay, Logan, Noble, and Payne Counties (north central), grasshoppers ranged less than one to five per square yard at 26 rangeland locations; Ageneotettix deorum, Amphitornus coloradus and M. packardii dominant species. Crop margin counts in same counties ranged one to six per square yard. Ranged 10-20 per square yard in clover pastures checked in Delaware County (northeast). (Okla. Coop. Sur.). ALABAMA - Nymphs of several species

appearing in considerable numbers in De Kalb, Marshall, Cullman, Morgan, and Chilton Counties; feeding on grass, soybeans, cotton, corn, and other crops. (Helms et al.). COLORADO - Several species range three to five per square yard in small area on Parachute Creek, near Grand Valley, Garfield County; some controls being applied on grazing land. (Bulla). UTAH - Winged Camnula pellucida, M. sanguinipes and Trimerotropis sp. frequently noted. Grasshoppers spottedly numerous in "Dixie" area of Washington County; 80 percent winged. (Knowlton). Damaging alfalfa and dry farm wheat in Whites Valley, Box Elder County (Knowlton, Finch); large numbers moving from rangeland in area (Haws, Knowlton). Continue damaging in east Millard and Juab County areas, largely moving from soil bank land to crops. (Knowlton, Rickenbach). Damaging untreated areas near Parowan, Paragonah, Summit, Kanarraville, and Newcastle, Iron County. (Knowlton, Sjoblom). OREGON - Spray program for Camnula pellucida nearing completion in Harney County. During first week of July, 12,000 acres treated in Malheur Wildlife Refuge. (Jackson). CALIFORNIA - Trimerotropis pallidipennis moderate on corn in Hanford, Kings County. (Cal. Coop. Rpt.).

CRICKETS - MINNESOTA - Heavy hatch occurred in western part of State. Counts in ditches and field margins as high as 81 per square yard. (Minn. Ins. Rpt.).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - Larvae caused heavy damage to some corn fields in southern and eastern half of State; majority late larval stages, pupae and adults. D. virgifera adults emerging rapidly in some fields; causing noticeable damage to corn leaves. (Bergman). First D. virgifera adults observed July 1 in Lincoln County; average of ten larvae per plant causing severe damage to untreated, late-planted corn. (Pruess). ILLINOIS - D. longicornis severely infested one of 12 corn fields in central and west districts; D. undecimpunctata howardi light in two other fields. In heavily infested field, 45 percent of plants very obviously stunted; average of 21 larvae, 2 pupae and 1 newly emerged adult in roots and soil about each stunted plant. (Ill. Ins. Rpt.). OHIO - First D. longicornis adults of season observed in Wyandot County, northwest; pupae noted in all corn fields checked; larvae ranged 1-39 per plant. (Blair).

CEREAL LEAF BEETLE (Oulema melanopa) - MICHIGAN - Over 99 percent of population now adult; less than one percent in soil as pupae. General adult feeding decreasing; high percentage of beetles have left maturing oats and wheat, concentrating in corn fields, fencerows, and along roadsides. Heaviest concentrations in reed canary grass, brome, orchard grass, timothy, and quackgrass. Summer adults relatively inactive; migrated to bases of corn leaves, grass clumps and other locations. Only minor injury occurring. Aerial spray program expected to be completed as soon as favorable weather permits. (Castro, Ring). INDIANA - Adults moving into resting areas in hedgerows in northern part of State. (Wilson). OHIO - Farmer and Mark Townships, Defiance County, and Center Township, Williams County, new regulated areas. Numbers of newly emerged adults increasing in Williams County. No more severe feeding expected until larvae of 1964 brood appear. (Porter).

DUSKY SAP BEETLE (Carpophilus lugubris) - MARYLAND - Adults appearing in whorls and tassels of sweet and field corn on Eastern Shore. (U. Md., Ent. Dept.). DELAWARE - Abundant on corn in several areas of Kent and Sussex Counties. (Burbutis, Evans).

FLEA BEETLES (Chaetocnema spp.) - NEW YORK - C. denticulata emerged in corn fields in Hudson Valley July 1. (N. Y. Wkly. Rpt.). DELAWARE - C. pulicaria increased slightly on corn throughout State. (Burbutis, Evans).

JAPANESE BEETLE (Popillia japonica) - NEW YORK - Very few found on corn in Hudson Valley July 1-3. (N. Y. Wkly. Rpt.). OHIO - Feeding on silks of field corn in some south central areas; spray program recommended; 14 adults noted on one corn plant. (Crawford, July 2). Infesting corn at Somerset, Perry County (southeast). (Perry).

A SCARAB (*Anomala undulata*) - INDIANA - Heavy in 50-acre field of corn at Oaktown, Knox County. (Hamilton, Chandler).

WIREWORMS - NEBRASKA - Larvae damaging field of milo in Buffalo County. (Bergman).

A FALSE WIREWORM (*Eleodes* sp.) - COLORADO - Damaging wheat in Pueblo County. (Haines).

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - NEW YORK - Moths scarce in Hudson Valley fields; larvae in silking corn mostly third to fifth instar; feeding in cavities in stalks and around ear shanks or in tassels of suckers. (N. Y. Wkly. Rpt., July 8). DELAWARE - Most first-generation larvae full grown; few pupae present in early corn and potatoes. Second moth flight underway; 13 collected June 6-11 in Sussex County light trap. (Burbutis, Evans). MARYLAND - Larvae generally light to moderate in sweet and field corn in all sections; infestation ranged 17-53 percent in few early planted fields. Moth numbers in Centreville light trap low compared with corresponding periods a year ago. (U. Md., Ent. Dept.). OHIO - Egg deposition practically complete; third to fifth-stage larvae noted in sweet corn at Wooster, Wayne County (northeast). (Guthrie, Schurr, July 8). Infested numerous sweet corn and few corn fields in southeast; infested 15 of 20 sweet corn plants in a Morgan County field; late-stage larvae tunneled through leaves, stalks and tassels. (Lyon, July 9). ILLINOIS - Development in field corn in central and west districts 11 percent third stage, 28 percent fourth stage, 61 percent fifth stage. (Ill. Ins. Rpt.). IOWA - First pupa of season found July 1 at Ankeny. Major emergence of second-brood moths anticipated about July 20-25, at which time most corn will be favorable for egg laying. (Iowa Ins. Inf.). WISCONSIN - Many larvae examined in Rock County in fourth and fifth stages. (Wis. Ins. Sur.). MINNESOTA - Populations becoming high in west central district, with some fields 100 percent infested; could be a problem this season. Egg laying continues in northern half of State. Generally low in central, south central, southeast and east central districts; generally moderate in southwest district except in northern counties where infestations high. (Minn. Ins. Rpt.). NEBRASKA - Third to fourth-stage larvae feeding in whorls of corn in southeast. (Bergman). ALABAMA - Extremely light in De Kalb County corn. (McQueen).

CORN EARWORM (*Heliothis zea*) - IDAHO - Infesting field of sweet corn in Parma area, Canyon County. Tasseling just begun in field and approximately 70 percent of stalks infested. (Scott). NEBRASKA - Early planted sweet corn 60 percent infested in Lincoln County. (Pruess). WISCONSIN - Few moths emerged in Arlington area from larvae maintained over winter in outside cages. (Wis. Ins. Sur.). OHIO - No larvae observed in southeast area corn fields; adult flights very low based on blacklight trappings; cool evenings inhibited flights. (Lyon). NEW YORK - No larvae found in Hudson Valley corn. (N. Y. Wkly. Rpt., July 8). ALABAMA - Extremely light infestation noted in corn in De Kalb County. (McQueen). FLORIDA - Infested corn at Monticello, Jefferson County. (Miller, July 5).

STALK BORER (*Papaipema nebris*) - MARYLAND - Moderate in marginal rows of field corn in sections of Wicomico County. (U. Md., Ent. Dept.). WISCONSIN - Larvae commonly damaging oats in Lafayette County. (Wis. Ins. Sur.). MINNESOTA - Present in marginal rows of corn; counts vary greatly; ranged as high as 95 percent in Watonwan County. (Minn. Ins. Rpt.).

SOUTHERN CORNSTALK BORER (*Diatraea crambidoides*) - MARYLAND - Several light to moderate larval infestations occurring in Worcester County field corn. (U. Md., Ent. Dept.). DELAWARE - Infesting sweet corn in area of Sussex County. (Burbutis, Evans).

SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) - MISSISSIPPI - Light on corn in Jefferson Davis County. (Ouzts, July 5).

FALL ARMYWORM (Laphygma frugiperda) - ALABAMA - Extremely light on corn in De Kalb County. (McQueen). FLORIDA - Infested 15 acres of corn at Greenwood, Jackson County (Tipton, June 28) and improved pasture at Jacksonville, Duval County (Josey, July 2).

ARMYWORM (Pseudaletia unipuncta) - WISCONSIN - Moth numbers not unusually high at this time compared with last year, although flights during mid-May at Platteville earlier and heavier than in 1962, while present counts from some areas may indicate delayed flight. Staggered planting dates, drought and other factors may cause reversal of situation reported in CEIR 13(28):782. (Wis. Ins. Sur.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - NORTH DAKOTA - Heavy infestations prevalent in barley and flax. First symptoms of aster yellows reported in flax. (N. D. Ins. Sur.). MINNESOTA - Counts declining with ripening of small grains. (Minn. Ins. Rpt.).

LEAFHOPPERS - WYOMING - Several species averaged 60 per 100 sweeps in Lincoln County barley fields. (Marks).

RICE STINK BUG (Oebalus pugnax pugnax) - ARKANSAS - Averaged 44 adults and 2 nymphs per 100 sweeps in 18 rice fields checked weekly in Lonoke and Prairie Counties, compared with 58 adults and one nymph previous week. Mating very pronounced during past 2 weeks. Some dispersal from grassy areas to clean areas of rice fields has occurred although no rice heading. (Ark. Ins. Sur.).

SAY STINK BUG (Chlorochroa sayi) - UTAH - Controls applied to 1,000 acres of small grains on drylands in eastern Millard County. Much of infested acreage north of Holden. (Knowlton, Rickenbach).

CHINCH BUG (Blissus leucopterus) - ILLINOIS - Varied zero to 1,000 or more per corn plant in marginal rows in central and eastern districts; some treatments applied. Very few still found in wheat but some still present in oats. (Ill. Ins. Rpt.). NEBRASKA - Adults common in corn in Cass, Lancaster, Sarpy and Saunders Counties. (Bergman). KANSAS - Occasional specimens noted in corn in Republic County, north central; counts low, no damage noted. (Painter, Burkhardt, Peters). ALABAMA - Several heavy infestations of St. Augustine grass observed at residences on Dauphin Island and in Dog River area, Mobile County. (Seibels).

CORN LEAF APHID (Rhopalosiphum maidis) - UTAH - Severe on several hundred acres of late barley at Nibley, Providence and other Cache County areas. (Knowlton, Burtenshaw). Severe on several hundred acres of spring barley in Minersville area, Beaver County; controls applied to 600 infested acres in Cedar Valley, Iron County; populations high on barley in several other areas of State. (Knowlton, Esplin, Sjoblom). NEBRASKA - Building up in milo in eastern third of State. (Roselle, Bergman). OKLAHOMA - Light numbers noted in corn, medium in sorghum, and heavy infestations common in Johnson grass in Choctaw County (southeast); heavy in grain sorghum in Mayes County (northeast). (Okla. Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - WYOMING - Averaged 12 per 100 sweeps in barley in Lincoln County. (Marks). MINNESOTA - Counts declined with ripening of small grains. (Minn. Ins. Rpt.).

GREENBUG (Schizaphis graminum) - MINNESOTA - Counts declining with ripening of small grains. (Minn. Ins. Rpt.).

THRIPS - ILLINOIS - Sericothrips variabilis and Frankliniella tritici common on corn, soybeans, clover and alfalfa in central and west districts. Ranged 0-6 per leaflet on soybeans, with 100 percent of plants showing light silvery in some fields; 36 observed on one corn leaf, with many leaves heavily silvered in some fields. (Ill. Ins. Rpt.). MARYLAND - Continue present on corn in all sections; injury noted on young corn in Frederick and Howard Counties. (U. Md., Ent. Dept.).

WHEAT STEM MAGGOT (Meromyza americana) - MICHIGAN - Caused serious injury to some fields of winter wheat in Berrien and Muskegon Counties. (Tatter, Janes).

HESSIAN FLY (Phytophaga destructor) - NORTH DAKOTA - Infested 20 percent of wheat plants in field in McLean County; some tillers completely destroyed. Now in "flax-seed" stage. (N. D. Ins. Sur.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - COLORADO - Increasing in corn in Larimer County; damage appearing on fourth and fifth leaves and mites present on top leaves. Injury occurring on lower leaves of corn in Mesa County. (Jenkins, Bulla). Abundant on clover in lawns in Larimer County. (Hoerner).

PEA APHID (Acyrtosiphon pisum) - ARIZONA - Buildup has remained longer than normal; just appearing in Yuma County alfalfa. (Ariz. Coop. Sur.). UTAH - Populations low in Washington County alfalfa where predators numerous. (Knowlton, Pease). Controls applied to over 5,000 acres of alfalfa in eastern Millard County. (Knowlton, Rickenbach). Populations moderate in Beaver County. (Knowlton). COLORADO - Increased on alfalfa; counts per 100 sweeps ranged 1,000-3,000 in Mesa and Montrose Counties, 500-2,000 in Larimer and Weld Counties. (Bulla, Jenkins). WYOMING - Average counts per 100 sweeps in alfalfa were 260 in Uinta, 600 in Lincoln and 420 in Teton Counties. (Marks). OKLAHOMA - Continued light to medium (5-10 per sweep) in alfalfa checked in Major County (northwest); none noted in fields surveyed in Choctaw County (southeast). Reported heavy on field peas in Haskell County (east central). (Okla. Coop. Sur.). MISSOURI - Light in alfalfa in southeast area; ranged 2-20 per sweep. (Munson, Thomas, Wood). ILLINOIS - Very light, 0-160 per 100 sweeps, in clover and alfalfa in central and western districts. (Ill. Ins. Rpt.). WISCONSIN - Generally low in alfalfa. (Wis. Ins. Sur.). MINNESOTA - Populations high in alfalfa; average counts per 100 sweeps, by district, as follows: Southwest - 7,376; south central - 4,032; southeast - 2,520; central - 2,900; west central - 1,500; northwest - 300. (Minn. Ins. Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ILLINOIS - Averaged 40 per 100 sweeps in a Mason County field; none observed elsewhere in central and western districts. (Ill. Ins. Rpt.). MISSOURI - Moderate to heavy in southeast area alfalfa. Severe damage observed in few fields in extreme southern section of area. (Munson, Thomas, Wood). OKLAHOMA - Light to medium (0-10 per sweep) in alfalfa checked in Choctaw County (southeast) and medium (5-10 per sweep) in Major County (northwest). (Okla. Coop. Sur.). UTAH - Very low in Washington County alfalfa where predators numerous. (Knowlton, Pease). ARIZONA - Ranged 100-150 per 100 sweeps in Yuma County alfalfa. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Counts per 100 sweeps in alfalfa ranged 200-500 in Yuma County and 100-300 in Graham County. (Ariz. Coop. Sur.). WYOMING - Counts per 100 sweeps in alfalfa, by county, were as follows: Uinta - 40 adults and 22 nymphs; Lincoln - 30 adults and 16 nymphs; Teton - 12 adults and 2 nymphs. (Marks). UTAH - Continue numerous in Millard County alfalfa seed fields. (Knowlton et al.).

TARNISHED PLANT BUG (Lygus lineolaris) - OKLAHOMA - Ranged 0.6-5.5 per sweep in alfalfa checked in Choctaw County (southeast). (Okla. Coop. Sur.). MARYLAND - Adults present in most alfalfa and clover in all sections. (U. Md., Ent. Dept.). VERMONT - This species and Adelphocoris sp. ranged 1-2 per sweep on trefoil seed fields. (MacCollom).

GREEN STINK BUG (Acrosternum hilare) - ARKANSAS - Averaged 11 per 100 sweeps in border of field of soybeans near timber in Craighead County. (Ark. Ins. Sur.).

A BURROWING BUG (Cyrtomenus mirabilis) - ALABAMA - Medium in local, isolated field of peanuts in Covington County; probably sucking sap from roots. (Stephenson).

MEADOW SPITTLEBUG (Philaenus spumarius) - OHIO - Averaged 1 adult per sweep in Guernsey County, 4 per sweep in Licking County (southeast). Populations higher in central counties. (Lyon).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Increased considerably in certain sections; averaged 1 per sweep in most alfalfa in Dane and southern Columbia Counties; reported high in Washburn, Waukesha, Sauk, Ashland, Taylor and many other central and northern counties. Averaged ten adults and nymphs per sweep in Dane County field. (Wis. Ins. Sur.). ILLINOIS - Adults varied 10-560, and nymphs 0-4,000, per 100 sweeps in clover and alfalfa in central and west districts. (Ill. Ins. Rpt.). MISSOURI - Light to moderate numbers noted feeding on alfalfa in east central area; ranged 3-27 per sweep. (Munson, Thomas, Wood). OHIO - Moderate to heavy in many southeastern area alfalfa fields; adults ranged 275-327 per 50 sweeps in a second-cutting field of alfalfa in Noble County; plants yellowing severely from leafhopper injury and drought. (Lyon). Averaged 226 per 50 sweeps in second-cutting alfalfa in Columbiana County (northeast); most counts averaged 2 per sweep throughout county. (Williams, Miller). VIRGINIA - Adults ranged 10-50 per 100 sweeps in alfalfa in Appomattox County (Woodside, July 9); light in alfalfa in Franklin and Pittsylvania Counties (Tarpley, July 9). MARYLAND - Ranged 1-30 per sweep on alfalfa in central and eastern areas; several fields with typical injury. (U. Md., Ent. Dept.). PENNSYLVANIA - Averaged 20 per 10 sweeps on alfalfa in south central area and in Huntingdon County. (Pepper, Udine, July 8). VERMONT - Ranged 1-2 per sweep in alfalfa and trefoil. (MacCollom).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Adults still numerous in alfalfa; counts per 100 sweeps ranged 500-700 in Yuma County, 40-50 in Graham County. Light in Pinal County, with heavy buildup expected prior to cutting. Counts also high in Maricopa County. (Ariz. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - WYOMING - Considerable larval activity noted in alfalfa in Uinta, Lincoln and Teton Counties. Adult and larval counts, respectively, per 100 sweeps by county as follows: Uinta - 60 and 375; Lincoln - 40 and 760; Teton - 50 and 725. (Marks). UTAH - Controls applied in early spring against adults excellent in Iron County, often poor in Cache County. (Knowlton). COLORADO - Larvae and adults active on terminal growth of alfalfa in Weld County; considerable loss occurring in second cutting of hay. (Titensor). ARKANSAS - Specimens tentatively determined as this pest from Crittenden County in CEIR 13(25):670, now positively determined as H. postica. (Ark. Ins. Sur.). OHIO - Larval, pupal and adult numbers low in second-cutting alfalfa in Noble County (southeast); many pupae collected by hand; averaged 5 adults and 6 larvae per 50 sweeps. (Lyon). Averaged 5 larvae and 1 adult per 50 sweeps in Columbiana County (northeast). (Williams, Miller). VIRGINIA - Larvae per 100 sweeps ranged 0-4 (average 3) in alfalfa in Campbell County, 0-25 (average 11) in Appomattox County, and none found in several fields around Steeles Tavern, Augusta County (Woodside, July 8-9); averaged 12 per 100 sweeps in one Franklin County field and 20 in a Pittsylvania County field. (Tarpley, July 9). MARYLAND - Larval populations below one per sweep on most alfalfa in all sections. (U. Md., Ent. Dept.). PENNSYLVANIA - Feeding along edges of new alfalfa seedings in Susquehanna County; 50 percent of leaves gone in 10-foot strip. (Gesell). VERMONT - Larvae declining in Bennington County; 2-3 third and fourth-stage larvae per 25 sweeps. (MacCollom).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Adults continue to cause conspicuous foliage injury to soybeans on Eastern Shore. (U. Md., Ent. Dept.). ILLINOIS - Varied 0-80 (average about 28) per 100 feet of row in soybeans in central and west districts. (Ill. Ins. Rpt.). MISSOURI - This species and Colaspis spp. light and feeding on soybeans in southwest area; adults ranged 0-3 per foot of row. (Munson, Thomas, Wood). ARKANSAS - Small numbers found in most soybeans, but no damage reported. (Ark. Ins. Sur.). ALABAMA - Feeding very light on soybeans, lespedeza and white clover in Cullman and Morgan Counties; collected along roadsides in Lee County. (Barwood, Davis et al.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Adults and larvae causing moderate to heavy injury to 2 large soybean fields in Worcester County. (U. Md., Ent. Dept.). INDIANA - Feeding on soybeans in 3 fields at Versailles, Ripley County, southeast. (Matthew).

LEAF BEETLES - OHIO - Colaspis sp. adults averaged 12 per 50 sweeps in field of alfalfa in Morgan County (southeast); no significant damage noted in adjacent corn. (Lyon). IDAHO - Monoxia sp., probably angularis, extremely abundant on native vegetation, particularly saltbush (Atriplex sp.), in north central Owyhee County; adults averaged 25 per sweep. (Gittins).

BLISTER BEETLES - IOWA - Defoliating soybeans in Clarke County. (Iowa Ins. Inf., July 8). OKLAHOMA - Light numbers of several species noted on soybeans in Okfuskee County (central). (Okla. Coop. Sur.).

GARDEN WEBWORM (Loxostege similalis) - OKLAHOMA - Heavy (2-10 per sweep) in alfalfa surveyed in Major County (northwest); also reported heavy in Ellis County alfalfa. (Okla. Coop. Sur.). MISSOURI - Larvae light in alfalfa in southeast area; ranged 0-6 per sweep. (Munson, Thomas, Wood). IOWA - Feeding on corn in Decatur County; also present on soybeans in Ringgold County. (Iowa Ins. Inf., July 8).

ALFALFA WEBWORM (Loxostege commixtalis) - COLORADO - Averaged 20 adults per night in light trap at Rocky Ford, Otero County. (Schweissing).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Larvae increasing in Yuma County alfalfa; large adult flights noted in or near alfalfa. (Ariz. Coop. Sur.). MARYLAND - Larvae light to moderate on alfalfa in Frederick County. (U. Md., Ent. Dept.).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Light to moderate on alfalfa, red clover and soybeans in several areas. (U. Md., Ent. Dept.). ARKANSAS - Small numbers found in most soybeans; no reports of damage received; none found in fields checked in Lonoke, Lee and Craighead Counties. (Ark. Ins. Sur.).

RED-NECKED PEANUTWORM (Stegasta basqueella) - OKLAHOMA - Continued light in peanuts checked in Bryan County (south central). (Okla. Coop. Sur.).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - OHIO - Larvae noted in cut alfalfa near Sidney, Shelby County (west central). (Lutz, Holdsworth).

CUTWORMS - SOUTH CAROLINA - Small larvae of unspecified species moderate on peanuts in Sumter County. (Nettles et al, July 8). FLORIDA - Feltia subterranea infesting peanuts at Jay, Santa Rosa County. (Boyd, July 3).

SPIDER MITES - MARYLAND - Tetranychus spp. appearing in some soybean fields in Talbot and Wicomico Counties. (U. Md., Ent. Dept.).

BEET WEBWORM (Loxostege sticticalis) - NORTH DAKOTA - Larvae feeding on weeds and causing some stripping of flax in fields in Barnes County. (N. D. Ins. Sur.).

FRUIT INSECTS

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - Emergence underway; first controls recommended by July 13 and continued on 10 to 12-day intervals through third week of August. Emergence can be expected to increase during next 2 weeks. (MacCollom). RHODE ISLAND - Adults active in Exeter; appearing in traps July 2-5. (Mathewson). CONNECTICUT - Emergence increasing; adults noted in all emergence cages. Heavy maggot activity on early ripening varieties at New Haven and egg laying believed underway. Activity usually peaks during last 2 weeks of July; protection urged on early maturing varieties especially. (Savos). NEW JERSEY - First larvae of season found in untreated field of blueberries July 3. Adult activity remains quite high; 438 trapped in abandoned field compared with 373 in 1962 and 187 in 1961. (Ins.-Dis. Newsltr., July 9). NEW YORK - Emergence at Poughkeepsie heavy throughout week ending July 8. Male-female ratio indicates peak not yet reached. Emergence continues high in Niagara County. Emergence in eastern area extremely heavy this year; cages in same location and seeding material from same source as in 1962 when emergence was scant. Total of 1,879 flies caught on July 2 from 16 cages; this is largest number to July 8. While it is early for peak, it may prove to be that peak arrived. Sex ratio switched to predominantly males for first time July 4. (N. Y. Wkly. Rpt.). MICHIGAN - Larval trails appearing in early varieties; only moderate number of adults observed in fruit-growing areas to July 12. (Carpenter, Mullett). Adults ordinarily abundant July 12; lack of rain considered responsible. (Dowdy). WISCONSIN - First adults trapped in Door County July 2. Ammonia bait trap at Kenosha during period July 2-8 yielded one specimen July 1. Two traps at Madison yielded 10 specimens in 1 trap and 14 in other during same period. (Wis. Ins. Sur.). MINNESOTA - Emergence continues but peak probably not reached; protection essential. First adult collection at La Crescent July 1, at Minnetonka July 2 and at Rochester July 8; ovipositing began about week after emergence. (Minn. Ins. Rpt.).

ORCHARD MITES - PENNSYLVANIA - Panonychus ulmi and Tetranychus telarius in centers of plum and prune trees in Erie County (Adams, July 2); not serious on apple in south central area (Pepper, July 8). MARYLAND - Undetermined spider mites heavy on peaches at Salisbury, Wicomico County, and on raspberries at Fairland, Montgomery County. (U. Md., Ent. Dept.). MICHIGAN - T. telarius continues noticeable buildup in southwestern area. (Carpenter, Tatter, Mullett). MISSOURI - All areas of State report varying degrees of infestations by spider mites. Mixed populations occur in southeast and could become very serious in near future. Recurring infestations of T. telarius in northwest, but growers keeping them under control. T. telarius ranged 8-10 per leaf in west central area on July 1 but brought under control. Very few mites noted in central area; probably due to efficient control programs. (Wkly. Rpt. Fr. Grs., July 10). COLORADO - T. telarius appearing on foliage of apple and pear trees in Delta and Mesa Counties; counts ranged 2-3 per leaf in Delta County. (Bulla). UTAH - Eriophyes pyri severe in some home orchards at Logan, Cache County, and Levan, Juab County. (Knowlton). IDAHO - Damage by E. pyri evident on untreated apple and pear trees throughout much of State. (Bechtolt). CALIFORNIA - Nymphs and adults of Bryobia rubrioculus heavy on peach trees locally in Riverside County. (Cal. Coop. Rpt.).

EUROPEAN RED MITE (Panonychus ulmi) - VERMONT - Continues heavy in many blocks. (MacCollom, July 8). Populations subsiding in most areas by July 15. (MacCollom). NEW YORK - Building up slowly in Niagara County. Most orchards show good control in Orleans County; occasionally building up in some orchards. Developmental temperature units in eastern area reached 1,194 on June 17 and 1,222 on June 18; peak populations expected at 2 a.m. July 8. Through June 30, total was 1,575. (N. Y. Wkly. Rpt.). WISCONSIN - Increased in Door County; some controls necessary especially on Red Delicious apples. (Wis. Ins. Sur.). MICHIGAN - Continuing noticeable buildup in southwestern area especially on Delicious apple trees. Relatively light in northwestern Lower Peninsula. (Carpenter, Tatter, Mullett). CONNECTICUT - This species and Tetranychus telarius stable in some orchards and increasing in others; rapid increase expected if temperatures are favorable. (Savos).

APPLE APHID (Aphis pomi) - VERMONT - Frequently observed on suckers and terminal growth. (MacCollom, July 8). CONNECTICUT - Presently most important pest on apples. Generally under control over most of State, but buildup can develop rapidly on terminals. (Savos). NEW YORK - Buildup beginning in Cayuga-Onondaga-Oswego County area. (N. Y. Wkly. Rpt., July 8). WISCONSIN - Increased in nearly all orchards in Door County to point of requiring controls. (Wis. Ins. Sur.). UTAH - Numerous in home orchard at Logan. (Knowlton, July 8).

PEAR PSYLLA (Psylla pyricola) - NEW YORK - Buildup of nymphs noted in Cayuga-Onondaga-Oswego County area. (N. Y. Wkly. Rpt., July 8).

APPLE MEALYBUG (Phenacoccus aceris) - VERMONT - Adults on trunks and ovipositing; no crawlers observed yet on foliage. (MacCollom, July 8).

A FALSE CHINCH BUG (Nysius raphanus) - CALIFORNIA - Heavy on apple trees and on soil surface in Watsonville, Santa Cruz County, on prunes in Hollister, San Benito County; very heavy on walnuts in Los Molinos, Tehama County. (Cal. Coop. Rpt.).

CODLING MOTH (Carpocapsa pomonella) - VERMONT - Activity declining rapidly July 8. Entries noticeable in unsprayed blocks. (MacCollom). CONNECTICUT - Some larval injury on untreated trees at Niantic; first activity report of year in State. (Savos). NEW YORK - Emergence appears over in Niagara County; larger first-brood larvae now leaving fruit. Flight at low level, but larval activity in fruit becoming more evident in eastern area. (N. Y. Wkly. Rpt., July 8). OHIO - Larvae abundant in apples in unsprayed home orchard in Washington County; most larvae near seeds of apple. (Lyon). MISSOURI - Few new entries still found in southeast; newly hatched larvae attacking fruit in central area July 8. (Wkly. Rpt. Fr. Grs.). WISCONSIN - Pupating of first brood noted at Gays Mills; few adults continue to be caught in blacklight traps. During period July 2-8: Two traps at Gays Mills yielded 1 moth July 7; trap at Madison yielded 2 on July 2, one on July 4, five on July 5, two on July 7; trap at Middleton yielded 4 on July 4, two on July 5, one on July 8. (Wis. Ins. Sur.). MICHIGAN - Some larval entries still appearing and few full-grown larvae leaving fruit in southwest. (Tatter, Carpenter).

FRUIT-TREE LEAF ROLLER (Archips argyrospilus) - NEW YORK - Large numbers of adults coming to bait traps in eastern area. (N. Y. Wkly. Rpt., July 8). WISCONSIN - Two traps at Gays Mills during period July 2-8 yielded 7 specimens in one trap and 47 in other trap. (Wis. Ins. Sur.). IDAHO - Common to abundant in Moscow area with emergence becoming general. (Ferguson, Manis).

OBLIQUE-BANDED LEAF ROLLER (Archips rosaceanus) - OREGON - Adults numerous in Willamette Valley blacklight trap collections. (Goeden).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - NEW YORK - First pupae found in Clinton County July 2 at point where larvae fed. (N. Y. Wkly. Rpt.). WISCONSIN - Adults of second brood observed in Door County since July 8; ten specimens collected in trap at Gays Mills during period July 2-8. (Wis. Ins. Sur.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - RHODE ISLAND - Tip damage evident on peach in Riverside, Providence County. (Mathewson). CONNECTICUT - One old tip injury noted on untreated peach at New Haven; this pest continues scarce in peach orchards of State. (Savos). MARYLAND - Larvae infesting ripening peaches at Boonesboro, Washington County. (U. Md., Ent. Dept.). MICHIGAN - Twig injury by first brood relatively light; protection needed now to harvest. (Carpenter).

LESSER PEACH TREE BORER (Synanthedon pictipes) - INDIANA - Adults still emerging from caged peach wood collected last April in Vincennes area, Knox County. (Hamilton, July 8).

PEACH TREE BORER (Sanninoidea exitiosa) - IDAHO - Causing minor damage in orchard near Parma. (Bechtolt). COLORADO - Emerged week of July 5 in Mesa County; controls urged. (Bulla). MICHIGAN - Considerable emergence occurred week ending July 12 in southwestern fruit-growing areas. (Carpenter).

A LEAF BLOTCH MINER (Lithocolletes crataegella) - NEW YORK - Several mines found in orchard in Clinton County; some larvae entered pupal stage and few others with pupal cases thrust through undersides of leaves, indicating some flight. (N. Y. Wkly. Rpt., July 8).

LOCUST LEAF MINER (Xenochalepus dorsalis) - OHIO - Moderately damaged several apple trees in home orchard in Washington County; 80 percent of leaves with feeding marks, with 10-15 percent skeletonized. Black locust trees adjacent to orchard; adult populations declining rapidly. (Lyon).

PLUM CURCULIO (Conotrachelus nenuphar) - GEORGIA - Has been very light in peach crop to July 6; practically absent in some orchards at Ft. Valley. (Snapp).

PEAR-SLUG (Caliroa cerasi) - OREGON - Attacking cherry, pear and quince in Willamette Valley; controls necessary. (Goeden). UTAH - Damaging sweet cherry, pear and plum foliage in number of Davis, Salt Lake, Box Elder and Cache County orchards. (Knowlton, July 8).

PECAN WEEVIL (Curculio caryae) - ALABAMA - Considerable number of grubs appearing in young pecans under isolated trees in Bullock and Henry Counties. (Murphy, Buttram). OKLAHOMA - Heavy, unconfirmed infestations, reported in native pecans in Hawkins community, Wagoner County, east central; this is extremely early for this pest in that area of State. (Okla. Coop. Sur.).

FILBERTWORM (Melissopus latiferranus) - OREGON - First emergence noted July 6 in Lane County. (Tinker).

A LEAF ROLLER MOTH (Archips rosana) - OREGON - Adults of this filbert pest abundant in Willamette Valley blacklight collections. (Larson).

A FILBERT APHID (Myzocallis coryli) - OREGON - Abundant on filbert leaves in many Willamette Valley orchards. (Jones).

PECAN LEAFROLL MITE (Aceria caryae) - OKLAHOMA - Causing localized damage to pecans at Stillwater, Bristow and Tulsa, north central and east central areas. (Okla. Coop. Sur.).

Quarterly Citrus Insect and Mite Outlook in Florida - July through September

This outlook is based on the assumption that weather beyond the period of the current U. S. Weather Bureau's 30-day outlook will be normal. Therefore, the forecasts given below cannot be viewed with the same degree of confidence as those in the "Insect Situation in Florida" usually given twice each month.

Effects of the December 1962 freeze were so great that the pest populations, except for citrus rust mite (Phyllocoptruta oleivora), are still quite different in groves that were defoliated. This is true, but to a lesser extent, for trees that have now attained a full canopy of healthy leaves.

In Freeze-damaged Groves - CITRUS RUST MITE (Phyllocoptruta oleivora) will remain generally high through July and August with some scattered, high infestations in September. TEXAS CITRUS MITE (Eutetranychus banksi), CITRUS RED MITE (Panonychus citri) and WHITEFLIES will be below average in most groves. A few groves will develop heavy infestations in August and September. SCALE INSECTS will increase from current low levels during July and August, but few infestations will be important.

In Undamaged Groves - CITRUS RUST MITE will be near normal high level for July and August, then drop into low range in September. About 40 percent of groves will have moderate or heavy infestations. TEXAS CITRUS MITE will subside in July and drop to low level in August. CITRUS RED MITE will be important only in scattered groves. BLACK SCALE (Saissetia oleae) will continue above average until mid-August. GLOVER SCALE (Lepidosaphes gloverii) will be above normal abundance. About 10 percent of groves will have heavy infestations in the interior of trees. CHAFF SCALE (Parlatoria pergandii) will continue above normal but no further increase until September. YELLOW SCALE (Aonidiella citrina) may become unusually numerous on leaves and fruit in a few groves. WHITEFLIES will be normally abundant through July. MEALYBUGS will soon drop to low level and remain low. FLORIDA RED SCALE (Chrysomphalus aonidum) will remain at very low level in all areas. (W. A. Simanton (Citrus Expt. Sta., Lake Alfred)).

YELLOW SCALE (Aonidiella citrina) - FLORIDA - Moderate on 2,250 sweet orange trees at Adamsville, Hillsborough County. (Hale, Fuller, July 8).

FERN SCALE (Pinnaspis aspidistrae) - FLORIDA - Light to moderate on sweet orange at 2 locations at Orsino, Brevard County. (Levan, July 2).

A SOFT SCALE (Coccus elongatus) - FLORIDA - Moderate on 18,000 sweet orange trees at Balm, Hillsborough County. (Custead, June 28).

MITES - ARIZONA - Tetranychus spp. and Brevipalpus spp. causing twig and fruit scars, along with leaf drop, in citrus groves where treatments delayed in Yuma County. (Ariz. Coop. Sur.).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - ARIZONA - Light in garden grapes in Safford, Graham County; infestations continue high in Maricopa County. (Ariz. Coop. Sur.). UTAH - Becoming prominent again in vineyard at La Verkin, Washington County, after several years of almost complete control. (Knowlton, Huber).

GRAPE BERRY MOTH (Paralobesia viteana) - MISSOURI - Adults now emerged; continued controls recommended. (Wkly. Rpt. Fr. Grs., July 10). MICHIGAN - Egg laying for second brood underway in Van Buren County; second brood expected to spread. (Carpenter, Tatter).

GRAPE ROOT BORER (Vitacea polistiformis) - MISSOURI - First adults of season noted in Rolla area July 8. (Wkly. Rpt. Fr. Grs.).

A GALL MIDGE (Cecidomyia viticola) - VIRGINIA - Heavy on grape foliage at location in Cumberland, Cumberland County. (Tarpley, Seay, June 21).

CITRUS FLAT MITE (Brevipalpus lewisi) - CALIFORNIA - Medium on grapevines in Holtville, Imperial County. (Cal. Coop. Rpt.).

GRAPE ERINEUM MITE (Eriophyes vitis) - CALIFORNIA - Medium on grapevines in Big Bar, Trinity County. (Cal. Coop. Rpt.).

JAPANESE BEETLE (Popillia japonica) - NEW JERSEY - Moving into blueberry fields located near pastures. (Ins.-Dis. Newsltr., July 9). MARYLAND - Adults injurious to grape, peach and plum in most sections, especially in gardens. (U. Md., Ent. Dept.). VIRGINIA - Medium to severe on grape in section of Lunenburg County. (Powers, July 11).

CURRENT FRUIT FLY (Epochra canadensis) - UTAH - Observed in black currants at Willard, Box Elder County. (Knowlton, July 8).

PAPAYA FRUIT FLY (Toxotrypana curvicauda) - FLORIDA - Collected in Steiner trap in mango at Miami, Dade County. (Brewton, July 1).

LEAF ROLLER MOTHS (Sparganothis spp.) - NEW JERSEY - Nearing peak activity on early drawn cranberry bogs; where these moths a problem, spraying should begin now on early drawn bogs. (Ins.-Dis. Newsltr., July 9).

CHERRY FRUITWORM (Grapholitha packardi) - OHIO - Pupating in blueberries at Wooster, Wayne County, and in Ashtabula County. (Still).

GREEN SHIELD SCALE (Pulvinaria psidii) - FLORIDA - Moderate on 25 lychee trees at Miami, Dade County. (Brown, July 2).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - MARYLAND - Larvae continue feeding on unprotected tomatoes in Dorchester and Worcester Counties. (U. Md., Ent. Dept.). VIRGINIA - Leaving harvested potato fields on Eastern Shore and damaging some tomatoes, eggplants and young peppers. (Hofmaster, July 9). MICHIGAN - Larval feeding injury much heavier than usual in major potato-growing area of Lower Peninsula; adults, eggs and larvae present. Better than average controls necessary this season to keep injury at low level. (Janes, Wells, Smith, Bloomer). COLORADO - Causing considerable foliage damage in some late potato fields in Weld County. (Berry, Cress, Titensor). IDAHO - Abundant and general on potatoes throughout Idaho Falls area; predominantly in early larval stages. (Kohl).

POTATO FLEA BEETLE (Epitrix cucumeris) - NEW JERSEY - Second brood present in all potato fields checked in Shiloh area, Cumberland County; caused considerable damage in 2 fields. (Ins.-Dis. Newsltr., July 9). DELAWARE - Adults very abundant in some potato fields in New Castle and Kent Counties. (Burbutis, Evans).

POTATO PSYLLID (Paratrioza cockerelli) - NEBRASKA - Routine surveys in 9 areas in Scotts Bluff County showed 2 areas contained 4 and 16 adults per 100 sweeps respectively on Lycium halimifolium June 11. Populations at 8 stops June 24 ranged 1-58 per 100 sweeps on L. halimifolium, early potatoes and cull piles. July 8 populations at 6 stops ranged 1-16 per 100 sweeps on L. halimifolium, early potatoes and cull piles. (Bergman). COLORADO - Not found in Weld County. Considerable variation occurs in populations in San Luis Valley with counts of 0-1 per 200 sweeps made. (Jenkins).

POTATO APHID (Macrosiphum euphorbiae) - MARYLAND - Moderate on commercial potatoes at Public Landing, Worcester County. (U. Md., Ent. Dept.). COLORADO - One colony found in 20 fields in San Luis Valley. (Jenkins).

GREEN PEACH APHID (Myzus persicae) - NEW JERSEY - Very low numbers found on older leaves in 6 potato fields examined in Shiloh area, Cumberland County. (Ins.-Dis. Newsltr., July 9). DELAWARE - Remains very scarce on most peppers in Kent and Sussex Counties. (Burbutis, Evans). MARYLAND - Generally light on peppers in Worcester County. (U. Md., Ent. Dept.). COLORADO - Increasing on late potatoes in Weld County; counts up to 32 per 100 leaves made. (Berry, Cress).

APHIDS - VIRGINIA - Heavy on tomatoes at location in Blacksburg, Montgomery County. (Tarpley, July 8). NEW YORK - Most potato growers used 2 sprays for aphid control in Suffolk County; Myzus persicae and Macrosiphum euphorbiae present. (N.Y. Wkly. Rpt., July 8). RHODE ISLAND - M. persicae and M. euphorbiae increasing very slowly in garden in Kingston, Washington County. (Kerr).

Potato Aphids in Maine - Except for early in week, overall aphid infestations increased at normal rate on foliage of untreated potatoes at Presque Isle and vicinity, Aroostook County. Percentage of infested plants (by 3-leaf method) doubled or tripled. In commercial plantings, percentages ranged 10-82 depending upon location and time of planting. General level of infestation much greater at this time than in 1962 and somewhat higher than in 1961. **BUCKTHORN APHID** (Aphis nasturtii) and **POTATO APHID** (Macrosiphum euphorbiae) predominate with only traces of **GREEN PEACH APHID** (Myzus persicae) and **FOXGLOVE APHID** (Acyrtosiphon solani) present. (Shands et al.).

HORNWORMS (Protoparce spp.) - DELAWARE - First feeding injury noted in small tomato planting in western Kent County. (Burbutis, Evans). MISSOURI - Numerous on tomatoes in Farmington area. (Wkly. Rpt. Fr. Grs., July 10). WISCONSIN - Adult P. quinquemaculata collected in blacklight traps in Mazomanie and Platteville. (Wis. Ins. Sur.).

A WOOLLYBEAR (Diacrisia sp.) - COLORADO - Eggs numerous on potato plants in San Luis Valley. (Jenkins).

PEPPER MAGGOT (Zonosemata electa) - NEW JERSEY - Many egg-laying punctures observed on peppers in Cohansey area, Salem County. (Ins.-Dis. Newsltr., July 9).

STRIPED CUCUMBER BEETLE (Acalymma vittata) - WISCONSIN - Moderate numbers feeding and mating in Dane County in field of commercial squash; several fields of commercial cucumbers required treatments in Green Lake and Walworth Counties. (Wis. Ins. Sur.). OHIO - Caused moderate damage on cucumber plants near Hebron, Licking County; 4-5 adults per leaf on few plants, generally moderate to heavy. (Lyon). MARYLAND - Adults feeding heavily on garden squash at Cambridge, Dorchester County. (U. Md., Ent. Dept.). DELAWARE - This species and Diabrotica undecimpunctata howardi present to fairly common on cucumbers, squash and melons in areas of New Castle and Kent Counties. (Burbutis, Evans). RHODE ISLAND - Active in cucurbits in garden in East Providence, Providence County; probably seasonally abundant statewide. (Mathewson).

SQUASH VINE BORER (Melittia cucurbitae) - VERMONT - Controls recommended. (MacCollom, July 8).

SQUASH BUG (Anasa tristis) - IOWA - Adults abundant on squash and melons in central area. (Iowa Ins. Inf., July 8). OKLAHOMA - Medium on pumpkin and squash in Kingfisher County. (Okla. Coop. Sur.). DELAWARE - Present on squash in New Castle County and on melons in Sussex County. (Burbutis, Evans).

IMPORTED CABBAGEWORM (Pieris rapae) - MARYLAND - Larvae heavy on cabbage at Ingleside, Queen Annes County, and on kale at Cambridge, Dorchester County. (U. Md., Ent. Dept.). PENNSYLVANIA - Infesting cabbage plants set out 2 weeks previously in Erie County. (Adams, July 3). NEW YORK - Adults active and ovipositing; no larvae noted in Canandaigua, Ontario County, to July 3. (N.Y. Wkly. Rpt.). RHODE ISLAND - Numerous on kohlrabi in East Providence, Providence County, and on cabbage in Barrington, Bristol County. (Mathewson). VERMONT - Becoming prevalent in home gardens. (MacCollom, July 8).

CABBAGE LOOPER (Trichoplusia ni) - VERMONT - Becoming prevalent in home gardens. (MacCollom, July 8). NEW YORK - First adult of season trapped in Hudson Valley July 5. (N.Y. Wkly. Rpt.). VIRGINIA - Building up on trellised tomatoes on Eastern Shore; insecticides not very effective. Hot, dry weather extremely favorable. (Hofmaster, July 9).

DIAMONDBACK MOTH (Plutella maculipennis) - VIRGINIA - Rather numerous on localized planting of greens on Eastern Shore. (Hofmaster, July 9). PENNSYLVANIA - Infesting cabbage plants in Erie County set out 2 weeks previously. (Adams, July 3).

CABBAGE MAGGOT (Hylemya brassicae) - CALIFORNIA - Larvae heavy on radish roots in Santa Cruz, Santa Cruz County. (Cal. Coop. Rpt.). WISCONSIN - Severely damaged untreated cabbage in Lincoln County. (Wis. Ins. Sur.). NEW YORK - Caused considerable trouble on farm to cauliflower in Oswego County. (N.Y. Wkly. Rpt., July 8). VIRGINIA - Heavy on roots of cabbage in home garden in Abingdon, Washington County. (Groseclose, July 3).

CABBAGE APHID (Brevicoryne brassicae) - PENNSYLVANIA - Infesting 3 percent of cabbage plants locally in Erie County. (Adams, July 3).

MEXICAN BEAN BEETLE (Epilachna varivestis) - UTAH - Damage conspicuous in many home gardens in Salt Lake City and Logan areas. (Knowlton, July 8). COLORADO - Adults ovipositing; some larvae noted on beans in Montrose County. Populations low in fields checked. (Bulla). MICHIGAN - Heavy on red kidney beans in Montcalm County. Ovipositing in Huron County; controls underway. Moderate to heavy in Grand Traverse County. (Janes, Rapes, Mullett). OHIO - Severe damage noted on garden beans at many home gardens in southeast. Plants infested with second through fourth instars and pupae. No new adults emerged. Many plants 60-98 percent skeletonized; some leaves contained 6-8 larvae. (Lyon). DELAWARE - Continues common in several bean fields throughout State. (Burbutis, Evans). MARYLAND - Larvae causing heavy damage to unprotected garden lima beans

in Wicomico and Dorchester Counties. (U. Md., Ent. Dept.). VIRGINIA - More numerous but easily controlled on Eastern Shore. (Hofmaster, July 9). MISSISSIPPI - Ranged light to heavy in Forrest County on beans July 5; controls applied. Now light. (Ouzts).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Adults causing moderate foliage injury to snap and lima beans. (U. Md., Ent. Dept.).

A FALSE WIREWORM (Eleodes sp.) - COLORADO - Damaging beans in Pueblo County soon after plants emerge from soil. (Haines, Hantsbarger).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - Medium on lima beans in Costa Mesa, Orange County. (Cal. Coop. Rpt.). NEW JERSEY - Numbers have not increased significantly during recent cool weather. (Ins.-Dis. Newsltr., July 9).

ONION MAGGOT (Hylemya antiqua) - MINNESOTA - Increasing in Hollandale area. (Minn. Ins. Rpt.). WISCONSIN - Caused some concern to onion growers in Shawano County. (Wis. Ins. Sur.).

ONION THRIPS (Thrips tabaci) - COLORADO - Ranged 15-20 per onion plant in Delta County; numbers very high in Otero County. (Bulla, Schweissing).

ASPARAGUS BEETLE (Crioceris asparagi) - MARYLAND - Adults moderate on asparagus foliage at Cambridge, Dorchester County. (U. Md., Ent. Dept.).

BEET WEBWORM (Loxostege sticticalis) - COLORADO - Caused considerable damage to foliage of sugar beets in Weld County; damage appearing in Mesa County. (Titensor, Berry, Bulla).

GOLDEN TORTOISE BEETLE (Metritona bicolor) - ALABAMA - Feeding on sweetpotatoes in Lee County. Agroiconota bivittata, along with several species of fleahoppers, caused light to considerable damage to leaves of sweetpotatoes in Cullman County. (Barwood et al.).

CARROT WEEVIL (Listronotus oregonensis) - MICHIGAN - Pupating in soil of infested celery field in Kalamazoo County. (Wells).

TOMATO FRUITWORM (Heliothis zea) - ARKANSAS - Pest of okra in Lincoln County. (Ark. Ins. Sur.).

A PYRALID MOTH - RHODE ISLAND - Larvae causing rapid and extensive damage to stand of mint in Barrington, Bristol County. (Mathewson).

RASPBERRY CANE BORER (Oberea bimaculata) - VERMONT - Active in Burlington area, Chittenden County. (MacCollom, July 8). RHODE ISLAND - Damaging raspberry canes in Riverside, Providence County. (Mathewson).

STALK BORER (Papaipema nebris) - NEW YORK - Several canes of current growth of red raspberry infested in Clinton County. (N.Y. Wkly. Rpt., July 8).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Counts remain generally high on lima beans in Rock County and about 1 per plant on lima beans in southern Columbia County; other acreages in latter county required treatment. Snap beans treated in Portage County. Relatively high numbers on potatoes in Walworth County. Averaged 10 per 10 sweeps on planting of mint in Walworth County. (Wis. Ins. Sur.). MARYLAND - Heavy on large garden planting of lima beans at Cambridge, Dorchester County. (U. Md., Ent. Dept.). DELAWARE - Numerous on tomatoes, potatoes and beans throughout State. (Burbutis, Evans). NEW JERSEY - Adults and nymphs present in one of 6 potato fields checked in Shiloh area, Cumberland County, and causing damage. (Ins.-Dis. Newsltr., July 9).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - MICHIGAN - Continues moderately abundant in major muck areas but aster yellows not caused widespread damage. Controls appear quite effective generally; 1 percent yellows infection on celery reported from Ottawa County. (Wells, Hoffman, Drost). WISCONSIN - Averaged 50 per 10 sweeps in planting of mint in Walworth County. (Wis. Ins. Sur.). MINNESOTA - Increasing but not causing apparent virus problem yet. (Minn. Ins. Rpt.). COLORADO - Appearing in light trap at Rocky Ford in numbers of 400 to 1,200 per night. (Schweissing).

LYGUS BUGS (Lygus spp.) - IDAHO - Mainly L. elisus, numerous in carrot seed fields in southwestern area. Numbers on second order, full flowering umbels, increased from 13 to 29 per 10 umbels during week ending July 12. All stages now present but 95-99 percent of active stages are nymphs. (Scott). COLORADO - Lygus sp. causing damage to terminal growth of potatoes in San Luis Valley. (Jenkins). DELAWARE - L. lineolaris present on peppers in Sussex County. (Burbutis, Evans).

THRIPS - IDAHO - Populations of undetermined species high on flowering onion umbels and on scattered late radish blooms in Fruitland area. Damage to onion umbels ranged trace to 75 percent of florets per umbel destroyed. (Scott). COLORADO - Numbered 50 per leaf on potatoes in Weld County. (Berry, Cress). MICHIGAN - Causing severe injury to navy beans, especially late beans under stress from drought, in Saginaw and Shiawassee Counties. (Janes).

FLEA BEETLES - OREGON - Large numbers of Phyllotreta cruciferae noted on cabbage in Corvallis area. (Crowell). COLORADO - Damaging foliage of potatoes in few fields in Rio Grande and Weld Counties. (Leick, Titensor). OHIO - Undetermined species caused heavy damage to cabbage near Reynoldsburg, Licking County; 80 plants observed 100 percent infested at roadside market. Phyllotreta striolata light on cabbage plants near Reynoldsburg. (Lyon). MARYLAND - Phyllotreta sp. heavy on kale at Cambridge, Dorchester County. (U. Md., Ent. Dept.). DELAWARE - Phyllotreta cruciferae remains common on horseradish in eastern Kent County. (Burbutis, Evans).

CUTWORMS AND LOOPERS - COLORADO - Undetermined cutworms damaging potato plants in field in Rio Grande County. (Leick). Eggs of undetermined looper on lettuce in San Luis Valley. (Jenkins). VIRGINIA - Considerable cutworm damage noted in some fields on Eastern Shore. (Hofmaster, July 9). WISCONSIN - Full-grown looper larvae population in full-podded peas in Columbia and Rock Counties too low to be problem, although abundant enough in Fond du Lac County to be noticeable. Other larvae occurring nearly as commonly in Columbia County pea fields are Ceramica picta, Colias eurytheme, Peridroma saucia, Plathypena scabra and Prodenia ornithogalli. (Wis. Ins. Sur.).

SPIDER MITES - MARYLAND - Tetranychus spp. heavy on garden plantings of lima beans in Dorchester and Wicomico Counties. (U. Md., Ent. Dept.). ARKANSAS - Undetermined species heavy on cucurbits in Lincoln County. (Ark. Ins. Sur.). OKLAHOMA - Several species heavy on tomatoes, beans and other crops in Garfield County. (Okla. Coop. Sur.).

TOBACCO INSECTS

HORNWORMS (Protoparce spp.) - MARYLAND - Larvae ranged light to moderate generally on tobacco in Anne Arundel, Calvert and St. Marys Counties. (U. Md., Ent. Dept.). MISSOURI - Numerous on tobacco in Fayette area. (Wkly. Rpt. Fr. Grs., July 10).

STALK BORER (Papaipema nebris) - MARYLAND - Larvae infested 3 percent of tobacco plants in one field in St. Marys County. (U. Md., Ent. Dept.).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Ranged light to medium on tobacco in Anne Arundel, Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults ranged 2-5 per tobacco plant in St. Marys County. (U. Md., Ent. Dept.).

SLUGS - VIRGINIA - Heavy on tobacco on farm in Washington County. (Groseclose, July 3).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - SOUTH CAROLINA - Few first-generation weevils observed in some fields in Florence area. (Taft et al., July 10). Activity much below that of same time last year. Weevils still difficult to find in some Piedmont areas, but punctured squares increasing. In Coastal Plain counties, weevils more numerous; infestation as high as 80 percent in one untreated field and 40-50 in many counties. Weevil migration expected to begin in low country July 16-20. (Cott. Ltr., July 15). GEORGIA - Square counts in northeast and northwest areas ranged 0-8 percent; averaged 4 percent punctured squares. (Johnson). Percent punctured squares in 1,868 fields checked July 5-10 was 1-10 in 76 percent of fields, 11-25 in 18 percent and 25-50 in 1 percent of fields; 5 percent of fields had no punctured squares. (Jordan). ALABAMA - Infestation counts continue low throughout State compared with previous years. Infestations increased in several northwest counties, particularly Colbert and Franklin where half-grown larvae indicate hatch-out about July 15-20. (McQueen et al.). TENNESSEE - Continues light in southern tier of counties and very spotted. Some fields becoming rank which will make control difficult without some mechanical damage to cotton. (Locke). MISSISSIPPI - Punctured squares found in 14 of 45 fields checked in delta counties. Percent punctured squares in infested fields ranged 0.2-7.5 and averaged 1.84. (Pfrimmer et al.). Light on cotton in Attala, Calhoun, Choctaw, Copiah, Holmes, Jefferson Davis, Lowndes, Madison, Monroe, Prentiss and Quitman Counties; controls applied. (Ouzts, July 5). LOUISIANA - Infestations continue generally light in Tallulah area, but higher than previously reported. New weevils observed in blooms in one field. Infestation averaged 14 percent in one 35-acre experimental field. (Smith et al.). OKLAHOMA - Light to medium in cotton in southwest area; only light numbers reported in southeast and east central areas. (Okla. Coop. Sur.).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Infestations light in all treated fields in Florence area. (Taft et al.). Present in nearly all fields in eastern half of State; few growers in Piedmont area also concerned. Larval counts in fields about same as year ago. (Cott. Ltr., July 15). GEORGIA - In northeast and northwest areas, egg counts ranged 0-15 (average 5) and larvae ranged 0-7 (average 4) per 100 terminals. (Johnson). Counts made in 1,878 fields during period July 4-10: Eggs per 100 terminals ranged 1-10 in 67 percent of fields, 11-25 in 18 percent of fields, 26-50 in 4 percent of fields and over 50 in 3 percent of fields; none found in 8 percent of fields. Larvae per 100 terminals ranged 1-3 in 46 percent of fields, 4-10 in 15 percent of fields, 11-25 in 3 percent of fields and over 25 in 2 percent of fields; none found in 34 percent of fields. (Jordan). ALABAMA - Appearing in greater numbers in more northern counties; appear to be decreasing in central counties. These are normal cycles and numbers may be much higher during next 10-20 days. (McQueen et al.). TENNESSEE - Light numbers present in most fields in western area, with damage in some fields sufficient to justify controls. Larvae ranged 0-18 per 100 terminals. Control appears to have reduced infestations in number of fields. Larvae averaged 6 per 100 terminals in infested fields. Control should be applied early before larvae large enough to enter bolls. (Locke). MISSISSIPPI - Injured squares found in 19 of 45 fields checked in delta counties. Percent punctured squares in infested fields ranged 0.2-2.2, averaged 0.52. Eggs found in terminals in only 3 fields. Light trap collections show moth flight increasing, indicating new brood is appearing in field. Very close check should be made during next 10-14 days. (Pfrimmer et al.). Light in cotton over entire State. (Ouzts). LOUISIANA - Terminal counts of eggs and larvae remained low in Tallulah area, with egg counts showing slight increase. Square damage lower. No outbreak of large larvae observed or reported. (Smith et al.). MISSOURI - Larvae ranged 0-5 per 100 terminals in 39 of 906 fields scouted. (French). OKLAHOMA - Light numbers in cotton checked in southwest and southeast areas. Infestations ranged 8-28 percent in 400 acres of cotton checked in Webber Falls area, east central. (Okla. Coop. Sur.).

BOLLWORM (Heliothis zea) - NEW MEXICO - Eggs and larvae found in cotton fields in southern counties; populations low in most fields. (N. M. Coop. Rpt.). ARIZONA - General in many Pinal County fields. Heavy infestations occur where cotton and corn associated. (Ariz. Coop. Sur.). CALIFORNIA - Few seen in all fields checked in Riverside area; no economic populations encountered. (Eskafi, July 3).

SPIDER MITES - NORTH CAROLINA - Defoliated some cotton on ends of rows in 2 Sampson County fields. (Mount). Tetranychus sp. abundant on leaves in Cleveland County. (Clapp). SOUTH CAROLINA - Undetermined species very serious in some areas; most complaints in St. Matthews area, where first infestations noted before 2 weeks of rain; have continued to increase. (Cott. Ltr., July 15). GEORGIA - Undetermined species light in northeast and northwest. (Johnson). Light in 15 percent of 1,878 fields checked. (Jordan). ALABAMA - Several species continue light but widely scattered. Controls applied to one 70-acre field in Colbert County. Anticipated hot weather may bring considerable increase. (McQueen et al.). TENNESSEE - Appearing in few more fields in western area but old infestations apparently not increasing. Spot control still effective in most cases. (Locke). MISSISSIPPI - In delta counties, infestations heavy in 2 fields, medium in 1 field and light in 1 field. More widespread than figures indicate. T. telarius heavy in Greenwood-Minter City area, with considerable difficulty in control. (Pfrimmer et al.). LOUISIANA - Some spotted infestations of unspecified species in Tallulah area, but not economically important at present. (Smith et al.). MISSOURI - Marginal infestations present in 196 fields of 906 fields scouted. (French). CALIFORNIA - Abundant in fields where control not applied or improperly applied in Shafter area. (Leigh, July 5). T. atlanticus encountered in few fields in Riverside area. (Eskafi, July 3).

CABBAGE LOOPER (Trichoplusia ni) - SOUTH CAROLINA - Serious in 25-acre field in Horry County; present in Marion County. (Cott. Ltr., July 15). GEORGIA - Light in cotton throughout State. (Johnson, Jordan).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Emergence continues in test cages in Graham County; averaged 3-4 per day. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Increasing in stub and planted cotton in Yuma and Pinal Counties. (Ariz. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Few young larvae appearing in Yuma County cotton. (Ariz. Coop. Sur.). CALIFORNIA - Adults flying at Westside. (Leigh, July 5).

PLANT BUGS - TENNESSEE - Lygus lineolaris and Adelphocoris rapidus causing some damage to very small squares over western area. Infestations light. (Locke). MISSISSIPPI - L. lineolaris light on cotton in Calhoun, Madison, Marshall, Montgomery, Quitman and delta counties; controls applied. (Ouzts, July 5). MISSOURI - Ranged 0-60 plant bugs per 100 plants in 645 fields. (French).

LYGUS BUGS (Lygus spp.) - ARIZONA - Populations still economically important in cotton fields; up to 10-100 per 100 sweeps in Casa Grande area, with very severe migration from safflower. Counts increased in Yuma County while counts in Graham County remained constant. Counts continue high in some Maricopa County fields. (Ariz. Coop. Sur.). CALIFORNIA - Migrating into many cotton fields from alfalfa, safflower and dying native vegetation. Nymphs in many fields in Shafter area. (Leigh, July 5). Populations very low in Riverside area. (Eskafi, July 3).

FLEAHOPPERS - MISSISSIPPI - Epitrix spp. light on cotton in Marshall and Madison Counties and in delta areas. (Ouzts, July 5). NEW MEXICO - Psallus seriatus and Spanogonicus albofasciatus populations remain relatively light in most cotton in Eddy, Chaves and Dona Ana Counties. (N. M. Coop. Rpt.).

COTTON FLEAHOPPER (Psallus seriatus) - ARIZONA - Counts high and increasing in Maricopa, Graham, Pinal and Yuma Counties. Nymphs destroying squares in growing tips. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

PINE BARK BEETLES - Dendroctonus frontalis activity continued in TEXAS, ALABAMA, and MISSISSIPPI, but generally at lower level than at same time last year; similar conditions reported in NORTH CAROLINA and within National Forest in north GEORGIA and SOUTH CAROLINA. Georgia Forestry Commission reported D. frontalis reduced to endemic levels in 34 counties and that control will be completed by last of June. Severe weather last winter contributed to mortality in north Georgia, South Carolina and portions of North Carolina. Some increase in number of parasites and predators also observed. Detection and evaluation surveys now in progress will be completed in early July; will provide valuable information on trend of 1963 D. frontalis population. In meantime, landowners urged to make periodic checks and clean up infestations to avoid future buildup. Ips spp. continue to threaten pine forests in naval-stores belt of FLORIDA, south GEORGIA and portions of TEXAS and LOUISIANA. D. terebrans infestations increased in TEXAS, LOUISIANA and ARKANSAS; existing drought conditions in south GEORGIA and FLORIDA favor increased activity. (South. For. Pest Rpt., June 26). ALABAMA - Dendroctonus terebrans, Ips grandicollis and I. avulsus killed about one acre of pines in Choctaw County. Monochamus titillator also present in these dead or dying pines. (Sexton). MISSISSIPPI - Light to heavy, isolated infestations of Ips spp. on pines in Choctaw and Forrest Counties; Dendroctonus terebrans light on pines in Forrest County. Control applied for both pests. (Ouzts, July 5). ARKANSAS - Dendroctonus terebrans active in south and southeastern areas. Attacking pines weakened by lack of rainfall. Ips spp. (primarily I. avulsus) damaging some stands of pine; heaviest concentration in Hamburg-Crossett-El Dorado area. Heavy activity also in eastern Ouachita Mountains, south of Perryville. Affected sites ranged from single trees to areas as large as an acre. (Ark. For. Pest Rpt., July). CALIFORNIA - Widely distributed populations of Ips confusus in 50 acres of slash from thinning. All slash treated prior to rains. Results of treatment showing as no live ponderosa pines infested in Forbes Creek area, Tahoe Mountain Forest. (C. Lowrie, USFS).

PALES WEEVIL (Hylobius pales) - PENNSYLVANIA - Breeding in freshly cut Norway spruce stumps in Lancaster County. Nearby Douglas-fir plantation and natural white pine saplings suffered extensive feeding damage. Other feeding damage to seedlings and saplings in Butler, Pike and Warren Counties. (Pa. For. Pest Rpt., July). NORTH CAROLINA - Caused heavy mortality in several thousand acres of pine plantations ranging from one to 3-4 years in age. (South. For. Pest Rpt., June 26).

WHITE-PINE WEEVIL (Pissodes strobi) - PENNSYLVANIA - Populations remain high in northern tier of counties. Untreated trees 80-90 percent attacked. (Pa. For. Pest Rpt., July). WISCONSIN - Pupation began in Sauk County first week of July. (Wis. Ins. Sur.). MINNESOTA - Forming chip cocoons for pupation. Considerable damage in roadside stands of white pine in Hubbard and Clearwater Counties. (Minn. Ins. Rpt.).

PINE ROOT COLLAR WEEVIL (Hylobius radicis) - MICHIGAN - Injury seems heavier this year in northwest Lower Peninsula. (Flink, Mars). PENNSYLVANIA - Caused 10 percent mortality of Scotch pine over 2 acres in Huntingdon County. (Pa. For. Pest Rpt., July).

PINE COLASPIS (Colaspis pini) - ALABAMA - Of concern to farmers in Baldwin County; 20-acre stand of pines defoliated. (Fairley).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - ALABAMA - Heavy damage in isolated areas of young pines, Chilton County. (Helms). OKLAHOMA - Completing second generation in Stillwater area in plantings of shortleaf and loblolly pine. (Okla. Coop. Sur.). KANSAS - Larvae damaging Scotch pine in Anderson County; averaged one per stem tip. (Mills, Thompson).

JACK-PINE BUDWORM (Choristoneura pinus) - MICHIGAN - Defoliation heavy in northern part of State; pupae and adults present. (Davenport, Flink). MINNESOTA - Adults active in Crow Wing, Cass, Hubbard and Clearwater Counties. Moderate defoliation in Pine River and Bemidji areas. Dead needles give jack pine a reddish appearance. (Minn. Ins. Rpt.). WISCONSIN - Pupation occurred last week of June and moth flight July 7 in Juneau County. (Wis. Ins. Sur.).

SPRUCE BUDWORM (Choristoneura fumiferana) - IDAHO - Severe locally west of Genesee near Washington border. Attacking ornamental spruce and some Douglas-fir. Infestation well removed from any large coniferous forest stands. (Manis).

PITCH TWIG MOTH (Petrova comstockiana) - PENNSYLVANIA - Extensive twig mortality and "flagging" on young Scotch pine in Tioga County. Adults emerged in mid-June from infested twigs. (Pa. For. Pest Rpt., July).

PINE TIP MOTHS - ARKANSAS - Active in tips over most of State; expected to be heavy in some areas. Damage noticeable. (Ark. For. Pest Rpt., July).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - IDAHO - Galls abundant on Douglas-fir in many areas. Infestation reported at Dubois, Clark County. (Gittins, Peebles). COLORADO - Many new galls evident on spruce in Garfield County. (Hantsbarger).

SPITTLEBUGS (Aphrophora spp.) - PENNSYLVANIA - A. parallela increasing in Clarion County pine plantations; 30 per tree on some trees. New adults noted in Union County in mid-June. (Pa. For. Pest Rpt., July). WISCONSIN - Treatment of 800 acres in Marinette and Oneida Counties anticipated for control of A. saratogensis; most nymphs in fifth stage. Adults emerged in Jackson County July 7. (Wis. Ins. Sur.).

PINE TORTOISE SCALE (Toumeyella numismaticum) - PENNSYLVANIA - Killed 10-20 percent of old field Virginia pine saplings over 15 acres in Lycoming County; 75 percent of trees infested. (Pa. For. Pest Rpt., July).

PINE SAWFLIES - PENNSYLVANIA - Diprion similis partially defoliating young white pine in Tioga County. Most stages observed June 26. (Pa. For. Pest Rpt., July). ARKANSAS - Neodiprion lecontei noticeable on ornamental pine plantings. (Ark. For. Pest Rpt., July). WISCONSIN - D. similis light in Lincoln County. (Wis. Ins. Sur.). MINNESOTA - D. similis mostly in third to fifth instar; some larvae spinning up. High second-generation populations expected especially in north Crow Wing County around Pelican and Cross Lakes. Pikonema alaskensis damaging occasional spruce in east central and northeast districts and to some small plantation spruce in Bemidji area. (Minn. Ins. Rpt.). IDAHO - Neodiprion sp. severely defoliating old needles of lodgepole and ponderosa pine stands in area south of Coeur d'Alene; pupation general on July 10. (Schenk).

LARCH SAWFLY (Pristiphora erichsonii) - NEW YORK - Moderate to severe defoliation of larch in Tomhannock Reservoir area near Pittstown, Rensselaer County. (N. Y. Wkly. Rpt., July 8). MINNESOTA - Present in all stages but immatures predominant. (Minn. Ins. Rpt.). WISCONSIN - Light in Lincoln County on July 2. (Wis. Ins. Sur.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - VERMONT - Injury easily observed, but does not appear as severe as in past years. (MacCollom, July 8). NEW YORK - Pupation started, but most larvae still feeding on foliage. (N. Y. Wkly. Rpt., July 8). ALABAMA - Extremely high populations defoliating elm in Lee, Tallapoosa, Colbert, Chilton and Franklin Counties. Some controls applied. Few trees dead from defoliation. New generation pupating in central and southern areas. (Helms, Ponder, Somerville). ARKANSAS - Feeding heavily in northwest area. Adults numerous and egg deposition heavy. (Ark. For. Pest Rpt., July). OKLAHOMA - Medium to heavy defoliation of elms throughout State.

Most frequently reported pest across State. (Okla. Coop. Sur.). OREGON - Adults emerging in Medford area. Severe infestation on unsprayed trees. (Berry).

IMPORTED WILLOW LEAF BEETLE (Plagiodera versicolora) - NEW YORK - Larvae and adults plentiful on black willow at Ithaca, Tompkins County. (N. Y. Wkly. Rpt., July 8).

A LEAF BEETLE (Anomoea laticlavata) - PENNSYLVANIA - Heavy foliage damage to black locust at Newport, Perry County, July 5. (Negley).

LOCUST LEAF MINER (Xenochalepus dorsalis) - ALABAMA - Defoliation 50-100 percent in isolated groups of black locust in Jefferson, Cullman, Colbert, Franklin and Lee Counties. (Barwood, Robinson, Warren). MARYLAND - Larvae causing noticeable browning of roadside black locust in Anne Arundel and Prince Georges Counties. (U. Md., Ent. Dept.). ILLINOIS - Larvae mining leaves of black locust near Carthage, Hancock County. This is a new county record. (Ill. Ins. Rpt.).

BRONZE BIRCH BORER (Agrilus anxius) - PENNSYLVANIA - Serious damage to birch in Dauphin County, July 6. (Sleesman). MINNESOTA - Adults still flying. (Minn. Ins. Rpt.).

FALL WEBWORM (Hyphantria cunea) - KANSAS - Second-generation adults emerging in field cage in Riley County. (Thompson). ARKANSAS - Heavy numbers appearing; active over State. (Ark. For. Pest Rpt., July). ALABAMA - Light on pecan, hickory and persimmon in Tallapoosa, Shelby, Jefferson Counties. Noted in Cullman, Lawrence, Morgan, Colbert and Franklin Counties. (McQueen). DELAWARE - On several trees throughout eastern Sussex County. (Burbutis, Evans).

OAK WEBWORM (Archips fervidanus) - PENNSYLVANIA - Completely defoliated scrub oak in Monroe, Carbon and Pike Counties; few red and scarlet oaks also affected. (Pa. For. Pest Rpt., July).

TENT CATERpillars (Malacosoma spp.) - RHODE ISLAND - M. americanum adults taken in blacklight trap at Kingston, Washington County. New egg masses abundant in East Greenwich, Kent County. (Mathewson). M. disstria again defoliated several thousand acres of bottomland hardwoods in LOUISIANA and TEXAS. (South. For. Pest Rpt., June 26). IDAHO - Large scale infestation of Malacosoma spp. present on alder, poplar, birch and willow from 10 miles south of Coeur d'Alene, Kootenai County and continuing intermittently northward to Sandpoint area in Bonner County. Pupation general by first week of July. Low incidence of virus disease among larvae. (Furniss, Schenk). OREGON - Large numbers of adults appearing in blacklight traps in Portland. (Larson).

GYPSY MOTH (Porthetria dispar) - VERMONT - Pupating on tree trunks. (MacCollom, July 8). CONNECTICUT - Larvae a problem at New Milford and Cornwall. (Savos). NEW YORK - Damage severe in some Hudson Valley areas. Larvae found July 1 at Ronkonkoma, in cooler areas of Suffolk County. (N. Y. Wkly. Rpt., July 8).

VARIABLE OAK LEAF CATERpillar (Heterocampa manteo) - ARKANSAS - Reported from Waldron area, with extensive feeding in local spots. (Ark. For. Pest Rpt., July).

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma) - INDIANA - Rather serious on Norway maple in Indianapolis; peak occurred week of July 1. (Favinger). WISCONSIN - Adults appearing in blacklight traps in Dane County. (Wis. Ins. Sur.).

ELM SPANWORM (Ennomos subsignarius) - Defoliation was below predicted level this spring in north GEORGIA and southwest NORTH CAROLINA. (South. For. Pest Rpt., June 26).

SATIN MOTH (Stilpnotia salicis) - IDAHO - Adults emerging in Moscow area. (Biggam).

MOURNING-CLOAK BUTTERFLY (Nymphalis antiopa) - IOWA - Infesting elm, willow and poplar in several counties. (Iowa Ins. Inf., July 8).

EUROPEAN ELM SCALE (Gossyparia spuria) - NEW JERSEY - Crawlers active. (Ins.-Dis. Newsltr., July 9). PENNSYLVANIA - Eggs hatched; heavy on elm in some areas of Dauphin County, July 3. (Sleesman).

A PIT-MAKING SCALE (Asterolecanium minus) - PENNSYLVANIA - Thousands of chestnut oak on several hundred acres near Quarryville, Lancaster County, killed this year, presumably as result of attacks by this scale. Much of actual killing of scale-infested, decadent trees was done by Agrilus bilineatus which is present in epidemic numbers. (Pa. For. Pest Rpt., July).

BIRCH LEAF MINER (Fenusa pusilla) - VERMONT - Second generation expected by July 13. (MacCollom). NEW YORK - Second generation very serious, especially on untreated trees in Suffolk County. First brood showed widespread activity; many trees with 50 percent leaf damage. (N. Y. Wkly. Rpt., July 8).

AN ERIOPHYID MITE (Diptacus sacramentae) - CALIFORNIA - Medium on alder; causing leaf drop in Tustin, Orange County. (Cal. Coop. Rpt.).

BAGWORM (Thyridopteryx ephemeraeformis) - MARYLAND - Heavy on arborvitae, cedar and juniper around properties in Howard and Prince Georges Counties. (U. Md., Ent. Dept.). OKLAHOMA - Medium to heavy on evergreens throughout State. (Okla. Coop. Sur.). ALABAMA - Heavy on arborvitae and other landscape plants in Shelby, Talladega, Jefferson, Colbert, Chilton and Franklin Counties. (Helms, Ponder, Somerville).

MIMOSA WEBWORM (Homadaula albizziae) - MARYLAND - Larvae infesting several mimosa trees in Anne Arundel and Prince Georges Counties. (U. Md., Ent. Dept.). ARKANSAS - Numerous on mimosa trees across State. (Ark. For. Pest Rpt., July). ALABAMA - Heavy on mimosas in Chilton, Colbert and Franklin Counties. Control applied in some areas. (McQueen).

ARBORVITAE LEAF MINER (Argyresthia thuiella) - VERMONT - Adults noted around arborvitae; plants in shaded locations partially defoliated. (MacCollom, July 8).

AZALEA CATERPILLAR (Datana major) - FLORIDA - Infesting 300 azaleas at Lakeland, Polk County, July 8. (Tyner).

JAPANESE BEETLE (Popillia japonica) - CONNECTICUT - Attacking wide variety of ornamentals. (Savos). NEW YORK - Very few found on roses in Hudson Valley July 1-3. (N. Y. Wkly. Rpt.).

ROSE CHAFER (Macrodactylus subspinosus) - OHIO - Flight about complete; damage to foliage expected soon. (Polivka, July 5). Infestating roses near Lebanon, Warren County, July 5. (Ross, Blair).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata undecimpunctata) - CALIFORNIA - Heavy on roses in Chowchilla, Madera County. More prevalent over State in home gardens than for several years. (Cal. Coop. Rpt.).

A JAPANESE WEEVIL (Calomycterus setarius) - WISCONSIN - Severely defoliating roses in Dane County. Leaves consumed except for veins. (Wis. Ins. Sur.).

APHIDS - VERMONT - Severe on ornamentals in Chittenden County. (MacCollom, July 8). CONNECTICUT - Still a problem on ornamentals. (Savos). NEW JERSEY - Active on maple, oak, elm, linden and birch. (Ins.-Dis. Newsltr., July 9).

PENNSYLVANIA - Prociphilus tessellatus heavy on maple in Cameron County. (Adams, June 27). IOWA - Lachnus salignus annoying in some areas. (Iowa Ins. Inf., July 8). UTAH - Unspecified species numerous on birch in Pine Valley Forest Camp, Washington County. (Knowlton). CALIFORNIA - Rhopalosiphum berberidis heavy on Berberis sp. in Sacramento, Sacramento County. Myzocallis californicus heavy on oak leaves in Ukiah, Mendocino County. (Cal. Coop. Rpt.).

GREEN PEACH APHID (Myzus persicae) - NEW JERSEY - Many plants of Anthurium sp. heavily infested in greenhouse at Linwood, June 4. Leaves and flowers slightly gnarled. Collected by Irene H. Sohl. Apparently no previous record of an aphid from this plant. (M. D. Leonard).

EASTERN SPRUCE GALL APHID (Chermes abietis) - PENNSYLVANIA - Heavy on white and Norway spruce in Christmas-tree plantation in Columbia County. (Callacott, June 27).

AZALEA LACE BUG (Stephanitis pyrioides) - MARYLAND - Prevalent on azaleas in College Park area. (U. Md., Ent. Dept.).

FOUR-LINED PLANT BUG (Poecilocus lineatus) - ALABAMA - Attacking several varieties of shrubs and garden flowers in Semmes area and caused considerable leaf drop in rose garden July 2 at Chickasaw, Mobile County. (Seibels).

COCCIDS - NEW YORK - Abundant on white ash at Varna, Tompkins County. Trees growing in forest conditions. (N. Y. Wkly. Rpt., July 8). PENNSYLVANIA - Lecanium fletcheri light but widespread on arborvitae in nurseries in Westmoreland and Allegheny Counties. (Yackley, Yount). More infestations of Neolecanium cornuparvum noted so far this year than last on magnolia in nurseries. (Yackley). MARYLAND - Unaspis euonymi heavy on euonymus at Pocomoke City, Worcester County. Aspidiotus perniciosus infesting several ornamental Prunus spp. in sections of Montgomery and St. Marys Counties. (U. Md., Ent. Dept.). FLORIDA - Lepidosaphes camelliae severe on Camellia japonica at Glen St. Mary, Baker County, July 8. (Collins). Pinnaspis strachani severe on Hibiscus sp. at Lake Worth, Palm Beach County, July 5. (Long). CALIFORNIA - Aspidiotus ehrhorni in heavy populations on white fir in El Dorado County. (Beechel).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - OHIO - Heavy on Mugho pine in Medina County (northeast). Females ovipositing. (Appleby).

A THRIPS (Liothrips illex) - CALIFORNIA - Nymphs heavy on California holly in Santa Cruz, Santa Cruz County. (Cal. Coop. Rpt.).

LEAFCUTTING BEES (Megachile spp.) - ARIZONA - Moderate to severe damage to roses in nurseries and home gardens in Pinal County. (Ariz. Coop. Sur.).

A WEB-SPINNING SAWFLY (Neurotoma fasciata) - WISCONSIN - Heavy on chokecherry trees in Rock and Walworth Counties. (Wis. Ins. Sur.).

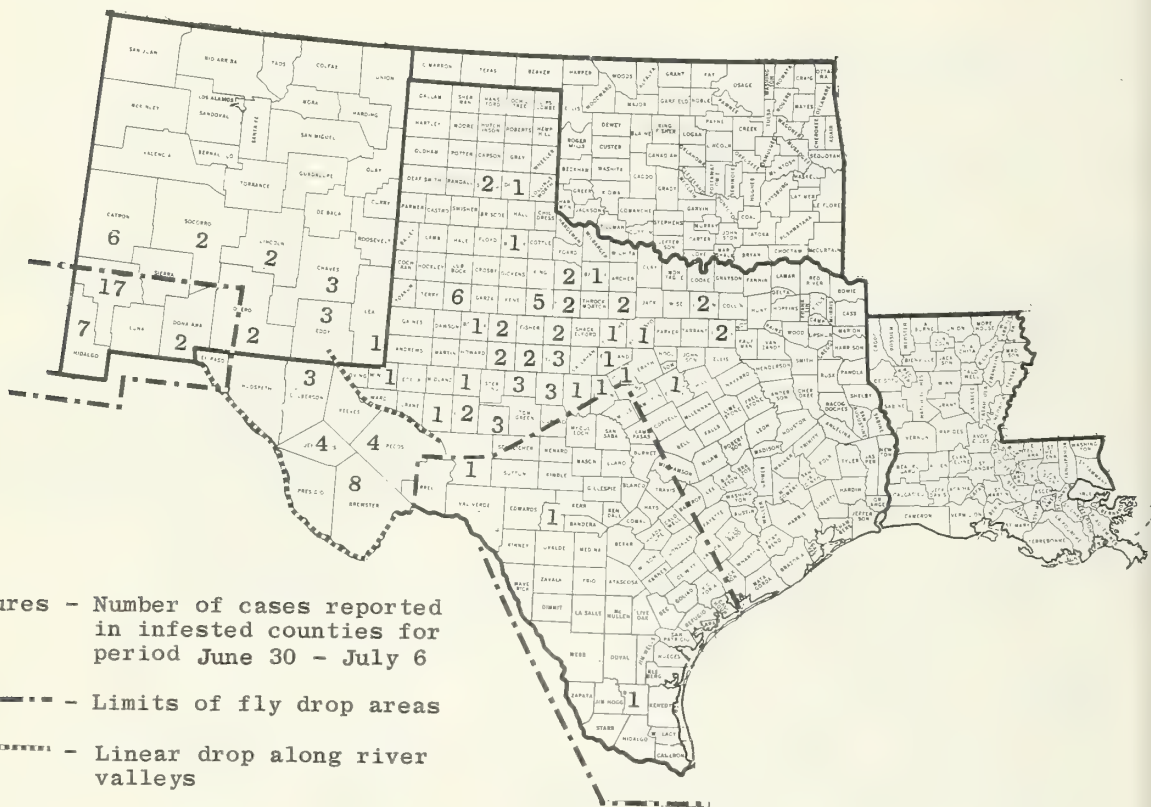
A STEM SAWFLY (Hartigia cressoni) - CALIFORNIA - Medium in rose canes in Chowchilla, Madera County. Later than usual and not as prevalent this year. (Cal. Coop. Rpt.).

SPIDER MITES - VERMONT - Oligonychus ununguis prevalent on spruce, juniper, hemlock and arborvitae. (MacCollom, July 8). CONNECTICUT - Unspecified species a problem on many evergreens, shrubs and other ornamentals. (Savos). DELAWARE - Panonychus ulmi bronzed individual trees in Kent and Sussex Counties. (MacCreary). WISCONSIN - Tetranychus spp. severely injured roses in Dane County. (Wis. Ins. Sur.). OKLAHOMA - Several species heavy on ornamentals in many areas prior to recent rains. (Okla. Coop. Sur.). UTAH - Unspecified species commonly damaging ornamental conifers in northern area. (Knowlton). ARIZONA - Oligonychus spp. and Tetranychus spp. damaging spruce and other ornamentals in Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

INSECTS AFFECTING MAN AND ANIMALS

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period June 30 - July 6, a total of 81 infestations was reported from TEXAS and 45 from NEW MEXICO. Specimens were reported from 38 counties in Texas and 10 counties in New Mexico. Screw-worm was reported for the first time this year from Brown, Winkler, Upton and Bosque Counties, Texas, and Lea County, New Mexico. A total of 118,910,250 sterile flies was released during the period June 30 - July 6. (Anim. Dis. Erad. Div.).



MOSQUITOES - VERMONT - Unspecified species troublesome in all areas. (MacCollom, July 8). MISSISSIPPI - Psorophora spp. medium on livestock in delta area July 1-12; controls applied. (Ouzts). NEBRASKA - High populations very annoying throughout State; dominant species primarily Aedes vexans and Culex tarsalis. A. dorsalis and A. nigromaculis more numerous than last year in Scotts Bluff area. (Rapp). UTAH - Mosquitoes annoying to severe in areas of Cache, Millard, Box Elder, Rich, Davis, Tooele, Utah and Weber Counties. Control applied in Weber County where Aedes dorsalis and A. nigromaculis were most common species. (Knowlton, Fronk).

FACE FLY (Musca autumnalis) - NORTH DAKOTA - Ranged up to 30 per animal. (Noetzel). IOWA - Numerous enough to cause extreme annoyance to unprotected animals. (Iowa Ins. Inf., July 8). WISCONSIN - Building up in Iron, Manitowoc, Monroe and Walworth Counties. Annoying horses in Walworth County. (Wis. Ins. Sur.). ILLINOIS - Populations relatively low in central and west districts. Averaged 4 per face in west and 2.1 in central district. (Ill. Ins. Rpt.). OHIO - Moderate on cattle in Guernsey County (southeast); ranged 20-25 per face on 15 head. (Share, Lyon). Averaged 8.8 per face on beef and dairy animals at Wooster, Wayne County (northeast). (Treece). VIRGINIA - Averaged 20 per head locally in Russell County, July 3. Averaged 3 per head in one herd and 2 per head in another herd in Franklin County. (Tarpley). MARYLAND - Counts of 2-14 per head in 11 dairy herds in Frederick and Howard Counties. (U. Md., Ent. Dept.). VERMONT - Problems unchanged. (MacCollom, July 8).

HORN FLY (Haematobia irritans) - WYOMING - Adults causing much irritation to cattle herds in Teton County. Estimated 150 per animal. (Marks). OKLAHOMA - Counts per animal on untreated cattle in Stillwater area, Payne County, averaged 750 on cows, 1,000 on long yearling steers, 5,000 on bulls. Ranged 600 to several thousand per animal on cattle in several herds checked in Pushmataha County; considerable annoyance to animals in many other areas. (Okla. Coop. Sur.). NORTH DAKOTA - Ranged 5-12 per animal. (N. D. Ins. Rpt.). WISCONSIN - Annoying in Price and Monroe Counties. (Wis. Ins. Sur.). ILLINOIS - Averaged 92 per animal in west and 36 per animal in central districts. Of 18 herds, 4 averaged 200 or more flies per animal and 10 averaged 25 or less per animal. (Ill. Ins. Rpt.). IOWA - Numbers sufficiently high to cause extreme annoyance to unprotected animals. (Iowa Ins. Inf., July 8). MISSISSIPPI - Medium to heavy on livestock in Choctaw, Holmes and Lowndes Counties and in delta area July 1-5; medium to heavy in delta area July 8-12. Controls applied. (Ouzts). MARYLAND - Counts of 3-8 per head in 4 dairy herds in Frederick County. (U. Md., Ent. Dept.). VIRGINIA - Severely infesting cattle locally in Russell County. Averaged over 500 per head. (Tarpley, July 3).

TABANIDS - PENNSYLVANIA - Chrysops spp. abundant in wooded sections of south central area; troublesome to humans. (Pepper, July 8). MICHIGAN - Adults of Chrysops spp. very annoying in Berrien and Lake Counties; moderately abundant in Sanilac and Menominee Counties. (Tatter, Mars, Sowerby, Bowers). WISCONSIN - Horse flies and deer flies still annoying in Vilas, Ashland, Trempealeau and Marathon Counties, but diminished somewhat in Price County. (Wis. Ins. Sur.). ILLINOIS - Horse flies seen only occasionally in central and west districts. (Ill. Ins. Rpt.). IOWA - Horse flies and deer flies fairly abundant in many areas; annoying cattle, horses and humans. (Iowa Ins. Inf.). MISSISSIPPI - Tabanus spp. medium on livestock in delta area July 1-12. (Ouzts). OKLAHOMA - Tabanus lineola complex and T. abactor averaged 2-3 per cow on low, wooded pastures in Payne and Pushmataha Counties. (Okla. Coop. Sur.). UTAH - Tabanids conspicuous in several areas of Rich, Box Elder and Tooele Counties and in Uintah Basin. Tabanus sp. annoying horses in Logan-Hyrum area of Cache County and T. sonomensis abundant in areas of Box Elder and Rich Counties. (Knowlton). WYOMING - Tabanids causing considerable irritation to man and animals in Lincoln and Teton Counties. Estimated 150-200 per animal. (Marks).

STABLE FLY (Stomoxys calcitrans) - NORTH DAKOTA - Ranged up to 50 per animal. (Noetzel). OKLAHOMA - Medium to heavy (8-15 per animal) on cattle checked in Pushmataha County. Averaged 1-2 per animal in Stillwater area, Payne County, with maximum of 8 per animal noted. (Okla. Coop. Sur.). MISSISSIPPI - Light on livestock in delta area July 1-12; controls applied. (Ouzts). IOWA - Extremely annoying to unprotected animals. (Iowa Ins. Inf., July 8). ILLINOIS - Averaged about 1 per animal in central and west districts. (Ill. Ins. Rpt.). WISCONSIN - Of concern in Grant, Vilas, Lafayette, Trempealeau and Price Counties. (Wis. Ins. Sur.). OHIO - Heavy on cattle in several southeastern counties; 100-275 per animal frequently observed on untreated herds, primarily beef cattle. (Lyon). MARYLAND - Counts of 0-6 per head in 11 dairy herds in Frederick and Howard Counties. (U. Md., Ent. Dept.).

HOUSE FLY (Musca domestica) - VERMONT - Increasing. (MacCollom, July 8).
CONNECTICUT - Larvae and adults on increase. (Savos). OHIO - Building up in Wayne County dairy barns; extremely abundant in one barn at Wooster. (Treece). OKLAHOMA - Ranged 10-15 per animal in Stillwater area, Payne County, with maximum of 30 noted. Populations up slightly in barns; averaged 6 per Scudder grid, with maximum of 30 per Scudder grid. (Okla. Coop. Sur.).

BLOW FLIES - VERMONT - Much more prevalent around urban areas than in past years. (MacCollom, July 8).

CATTLE GRUBS (Hypoderma spp.) - WISCONSIN - Adults noticeable in Walworth, Monroe and Lafayette Counties. (Wis. Ins. Sur.). UTAH - Adults annoying cattle in areas of Cache and Box Elder Counties during recent weeks. (Knowlton).

AMERICAN DOG TICK (Dermacentor variabilis) - NEBRASKA - High populations in several areas of State. (Rapp). KANSAS - Specimen from child's scalp, Riley County, July 3. (Isaak). OHIO - Many inquiries from Cambridge area, Guernsey County; 3 taken from small girl. Also on dogs and cats in area. (Share).

EAR TICK (Otobius megnini) - UTAH - Annoying to some cattle herds in Iron County. (Knowlton, Sjoblom).

BROWN DOG TICK (Rhipicephalus sanguineus) - ARIZONA - Numbers increasing for first time this year in Pinal County. Infestations general in Maricopa County. (Ariz. Coop. Sur.).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Heavy numbers on cattle checked in Pushmataha County. (Okla. Coop. Sur.).

FLEAS - CONNECTICUT - Becoming troublesome to homeowners with pets. (Savos). OKLAHOMA - Ctenocephalides spp. continue a problem in homes of returning vacationers, where pets are kept. (Okla. Coop. Sur.).

CHIGGERS - PENNSYLVANIA - Attacking humans in Delaware Water Gap and in areas of Monroe and Dauphin Counties during first week of July. (Sleesman).

HOUSEHOLD AND STRUCTURAL INSECTS

DRUGSTORE BEETLE (Stegobium paniceum) - OKLAHOMA - Causing some concern to homeowners in north central area. (Okla. Coop. Sur.).

LARDER BEETLE (Dermestes lardarius) - PENNSYLVANIA - Heavier than usual in northwest area. (Adams, July 2).

LARGER YELLOW ANT (Acanthomyops interjectus) - NEW JERSEY - Winged forms still causing some concern to homeowners. (Ins.-Dis. Newsltr., July 9).

PAVEMENT ANT (Tetramorium caespitum) - NEW JERSEY - Winged forms still causing some concern to homeowners. (Ins.-Dis. Newsltr., July 9). CONNECTICUT - Continues to swarm in many parts of State. (Savos).

STORED-PRODUCT INSECTS

A MELYRID BEETLE (Collops bipunctatus) - COLORADO - Present in small grain crops in Arkansas Valley, San Luis Valley and northeastern area. (Schweissing, Hantsbarger, Jenkins).

CIGARETTE BEETLE (Lasioderma serricorne) - FLORIDA - Feeding on dried lima beans at Clewiston, Hendry County. (Smith, July 9).

CADELLE (Tenebroides mauritanicus) - MISSOURI - Heavy in popcorn bins in north-west area. (Saint Aubin).

GRAIN MITE (Acarus siro) - IDAHO - Infested potato storage cellar at St. Anthony; cellar roofed with straw insulation. (Garner).

MUSHROOM MITE (Tyrophagus putrescentiae) - CALIFORNIA - Heavy in grain mix horse feed in Santa Ana, Orange County; more evident over past 2 years than previously. Household infestations not uncommon. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

LADY BEETLES - WYOMING - Several species numerous in alfalfa fields of Uinta, Lincoln and Teton Counties; counts averaged 40 per 100 sweeps. (Marks).

COLORADO - Counts of Hippodamia sp. ranged 200-300 per 100 sweeps in Mesa County. (Bulla). FLORIDA - Rodolia cardinalis predaceous on scale insect collected on sweet orange at Balm, Hillsborough County. (Custead, June 28).

PUNCTUREVINE WEEVILS (Microlarinus spp.) - UTAH - Release of 200 specimens made at Perry, Box Elder County, July 9 and 200 at Santa Clara, Washington County, July 10. (Knowlton, Hawkes).

BIG-EYED BUGS (Geocoris spp.) - ALABAMA - G. punctipes not very common in cotton in northern area. (McQueen). WYOMING - Counts of Geocoris sp. averaged 35 per 100 sweeps in alfalfa fields of Lincoln County. (Marks).

A PREDACEOUS THRIPS (Leptothrips mali) - CALIFORNIA - Adults medium on apple trees at Castella, and light on plum trees at Lakehead and Castella, Shasta County. (Cal. Coop. Rpt., July 5).

ROBBER FLIES - ALABAMA - Appearing in considerable numbers in Lee County. (Barwood, Davis).

ALKALI BEE (Nomia melanderi) - UTAH - Appeared in Pahvant-West Kanosh area on July 1; two artificially prepared nesting sites, west of Kanosh and at Pahvant, Millard County, look good. (Knowlton, Rickenbach).

Beneficial Insects in Alabama - Nabis spp., Hippodamia convergens, Coleomegilla maculata fuscilabris, Chrysopa oculata and Orius insidiosus appearing in large numbers in cotton and corn in Cullman, Morgan, Lawrence and Colbert Counties. (McQueen).

Beneficial Insects in Utah - LACEWINGS extremely abundant plus Geocoris spp., Nabis spp., LADY BEETLES and FLOWER FLY larvae in alfalfa fields in Washington-Santa Clara area, Washington County. (Knowlton, Pease).

CORRECTIONS

CEIR 13(27):770 - ASIATIC GARDEN BEETLE (Autoserica castanea) should read (Maladera castanea).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - VERMONT - Emergence increasing. (MacCollom, July 8). RHODE ISLAND - General emergence appears underway, but spottier than usual; geographical variation great. Common on favored host plants in East Providence area and homeowners commenting on lateness of appearance in Woonsocket region, Providence County. Scanty in Kingston section, Washington County. (Mathewson). PENNSYLVANIA - Emerged in Dauphin County July 6. (Cole). Very few appearing in south central and central areas; infestation will probably be low due to dry summer of 1962. (Udine, July 8). VIRGINIA - Medium on variety of plants in Culpeper County; first noted June 15 with large buildup past week. (Heltzel, July 2). First appearance in considerable numbers in pastures; not yet apparent on favored host plants around Steeles Tavern, Augusta County. (Woodside, July 3). Light on Virginia-creeper, grape and fruit trees in Fluvanna County; adults first appeared on grape week of June 24-29. (Watts, July 1). OHIO - Populations low compared with 1962, possibly due to dry weather; however, considerable numbers collected at Gallipolis, Gallia County (southeast). (Polivka, June 26). Infesting many crops near Ironton, Lawrence County (southcentral). (Crawford). Averaged 8-10 per 50 sweeps in Guernsey and Noble Counties; observed on corn, alfalfa, red clover, potato, garden beans, grapes, sassafras and weeds; heaviest numbers noted in Noble County, with 6 on one leaf and 35 on sassafras plant; considerable feeding on sassafras. No significant feeding on other plants. (Lyon). MICHIGAN - Adults being collected in traps in vicinity of Battle Creek, Calhoun County; this only area where adults collected to July 12. Catches being made in high percentage of approximately 1,000 traps located primarily south of city. Traps being moved farther from city to delimit area of infestation. Heavy flight indicated by one trap within city limits being filled to overflowing. Feeding on roses and weeds. (Ring, Carlson).

EUROPEAN CHAFER (Amphimallon majalus) - NEW YORK - Being found throughout city of Elmira, Chemung County, as well as in areas previously treated. Flights underway in Norwich area, Chenango County; first adult trapped June 27; large numbers appeared warm nights of June 30 and July 1. Swarmed in Lockport, Niagara County, June 27. (N. Y. Wkly. Rpt., July 8).

ASIATIC GARDEN BEETLE (Maladera castanea) - RHODE ISLAND - Adults active in Warwick, Kent County. A little late this year. (Cartier).

NORTHERN MASKED CHAFER (Cyclocephala borealis) - OHIO - Adults present statewide; many collected at Friendship, Scioto County (south central). (Polivka).

SAP BEETLES (Glischrochilus spp.) - INDIANA - Extremely annoying in residential and suburban areas in Marion and Tippecanoe Counties. (Favinger, Osmun).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - FLORIDA - Collected at Balm, Hillsborough County, in what may be a new township. (Custead, Hale, Fuller; July 3).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. ips.	Perid. saucia	Prod. ornith.	Ostrin. nubil.	Protoparce sexta	Heliothis zebra	Heliothis vires.
ARKANSAS								
Hope 6/27-7/3		1						33
Hope 7/4-10		2						65
Morrilton 6/27-7/3	5	2						39
Morrilton 7/4-10	15	3		25				40
Kelso 6/27-7/3								2
Kelso 7/4-10								11
Fayetteville 6/27-7/3								20
Fayetteville 7/4-10								12
GEORGIA								
Tifton 7/4-10						8		36
ILLINOIS (County)								
Champaign 7/5-11	297	62		299	36			1
INDIANA (Counties)								
La Porte 6/24-7/8	180	3		22		6	5	
Lawrence 6/30-7/8	51	12		39	5	3	2	
Tippecanoe 7/3-10	68	3		7	1			
Vanderburgh 7/4-9	3	1		4	1			
Jasper 6/27-7/7	784	10		35	6	2	4	
KANSAS								
Garden City 7/5-8	1	4			57			1
Hays 7/5					2			
Manhattan 7/6-12	8	3		3	93	2		
Mound Valley 7/4					2			
Wathena 7/3, 6, 11	6	6		1	16			2
MARYLAND								
Centreville 7/3-9	26	18		13	14	<u>2</u>		
MISSISSIPPI								
*Stoneville 7/5-11	113	5		4	109	12		171
NEBRASKA								
Lincoln 6/27-7/3	522	91		126	59			6
Lincoln 7/4-10	113	56		49	29			6
North Platte 6/26-7/2	198	50		41	25	3	4	5
Scotts Bluff Exp.								4
Sta. 6/25-7/1	106	28		57			1	1
Scotts Bluff Exp.	54	18		107			1	1
Sta. 7/2-9								
NORTH DAKOTA								
Pembina 7/6-12	2	1			2			
Slope 7/6-12	1							
Bottineau 7/6-12	1	1			14			

* Two traps - Stoneville

(Continued on page 842)

Light Trap Collections (Continued)

	Pseud. unip.	Agrot. ips.	Perid. saucia	Prod. ornith.	Ostrin. nubil.	Protoparce sexta	quinq.	Heliothis zea	vires.
OHIO									
Wooster 7/5-11	102	15							
Ripley 7/5-11						5			
Marietta 7/5-11						1			
SOUTH CAROLINA									
Clemson 6/29-7/5	3	2	5	235		1		3	3
Clemson 7/6-12	22	2	3	301					
Charleston 7/8-14	4	1	1	38		4		2	1
TEXAS									
*Brownsville 7/1-11		69	137	254		1,901	238	6,801	700
WISCONSIN									
Janesville 7/2-8	1,287					2			
Delavan 7/2-8	99					2			
Platteville 7/3-8	394	23	30						
Mazomanie 7/2-8	93	4	6			8			
Middleton 7/3-9	40	12	19			1			
Madison 7/3-9	90	27	11						
De Forest 7/2-9	158	6	8			1			
Astico 7/2-8	73					3			
Wayne 7/2-8	28					1			
Theresa 7/2-8	32					13			
Nenno 7/2-8	114					5			
Cedar Grove 7/2-8	39					11			
Waldo 7/2-8	44	4				9			
Ripon 7/2-8	1,188					15			
Rosendale 7/2-8	350					15			
Arlington 7/2-8	201					3			
Fox Lake 7/2-8	60					60			
Beaver Dam 7/2-8	367					62			

Additional Light Trap Collections

TEXAS - (*Brownsville 7/1-11) - Pectinophora gossypiella - 1,589; Trichoplusia ni - 8,609.

* Six traps - Brownsville

UNITED STATES DEPARTMENT OF AGRICULTURE

WASHINGTON 25, D. C.

Official Business

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE

